DOCUMENT RESUME

ED 158 621 HE 009 799

TITLE	Forth-Seventh Annual Report, 76-77. Australian Council of Educational Research.
INSTITUTION	Australian Council for Educational Research, Hawthorn.
PUB DATE	77
NOTE	85p.
AVAILABLE FROM	Australian Council for Educational Research, Publishing Office, P.O. Box 210, Hawthorn, Victoria, 3122, Australia
EDRS PRICE	MF-$0.83 HC-$4.67 Plus Postage.
DESCRIPTORS	*Annual Reports; Booklists; Curriculum Research; Educational Assessment; *Educational Research; Educational Sociology; *Foreign Countries; *Organizations (Groups); Publications; Research Methodology; Research Projects; *Research Reviews (Publications); Surveys
IDENTIFIERS	*Australia; Radford (William C)

ABSTRACT

The 1976-77 annual report of the Australian Council for Educational Research (ACER) contains a tribute to the late director Dr. William C. Radford, a list of members of the council, the annual report of the director, a list of ACER staff, contributors to council funds, and information on state institutes for educational research. The annual report outlines three important areas of research activity in addition to curriculum research and development. These areas are studies in measurement and evaluation, learning and teaching, and the social foundations of education. Summaries are provided of surveys, reviews and comparative studies, curriculum innovations and evaluations, educational and psychological measurement projects and instruments, the ACER library, and ACER advisory services. Journals, books, reports, papers, and tests that were published are listed, and distribution services are outlined. (SW)

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Australian Council for Educational Research

- ED158621

forty-seventh annual report

76-77

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Frederick Street, Hawthorn, Victoria 3122

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DR. WILLIAM C. RADFORD

Tribute to the late Dr William C. Radford

William Cropley Radford, the son of a country schoolmaster, was born in 1913 at Crowlands, Victoria, and died on 25 November, 1976. During his last three years of schooling Bill Radford commenced primary school teaching under his father at Horsham State School and in this period took the Leaving and Matriculation Examinations. Subsequently he obtained a Master of Arts degree with Honours in Modern Languages at the University of Melbourne. After graduating, Bill Radford taught in secondary schools for two years, became a Research and Curriculum Officer in the Victorian Education Department, and was seconded to the Australian Council for Educational Research where he contributed to the first *Review of Education in Australia, 1938*.

At the outbreak of World War II he enlisted and served with AIF artillery units in several theatres of war, including El Alamein, after which he was awarded the MBE. A staff appointment in London followed his service in Africa and New Guinea, and he was present at the founding of Unesco. At the time of his demobilization in 1946, he held the rank of Major. From London he was appointed Assistant Director of the ACER, a position he held until he succeeded Dr K S Cunningham as Director in 1955.

While working at the ACER he completed the degrees of Master of Education from the University of Melbourne and Doctor of Philosophy from the University of London (1954). His MEd thesis was of considerable significance to Australian education as a pioneer venture in a particular field; and its comprehensiveness and penetrating analysis created a model, in the immediate post-war years, for a number of similar studies by post-graduate students at the University of Melbourne School of Education. His concern and interest in the problems of the country child were reflected in his two thesis studies — for his MEd, *The Educational Needs of a Rural Community*, and for his post-war PhD, a study of the consolidation of small schools into a large central school.

Contributions to Australian Education

As Director of the ACER, Dr Radford was responsible for the remarkable growth and development that have occurred in the Council in the last 20 years. Under his leadership, the ACER grew from a relatively small organization into a strong and influential body whose research findings and sound conclusions are listened to with respect by both administrators and political leaders concerned with Australian education.

The present high reputation of the Council is the direct result of the progressive policies set by Dr Radford, his positive and inspiring example, and the regard in which he was held, both personally and for his work, by senior educators in academic and administrative fields.

From his term as Director of the ACER, certain major achievements are worthy of particular note.

- The work, begun under Dr Cunningham, in educational and psychological test research and development was expanded to the extent that the Council now is the major organization in Australia involved in the construction and supply of tests for educational and psychological purposes from kindergarten to tertiary level. These have included ability tests for both primary and secondary level students, readiness tests for junior primary groups, the tests for the Commonwealth Secondary Scholarship Examination, and the papers for the Tertiary Education Entrance Project and the Australian Scholastic Aptitude Test for university entrance.
- The Junior Secondary Science Project, supported by grants from charitable trusts and by Council funds, developed syllabuses, learning materials, and teaching aids for the first two years of secondary school science in Victoria. This developed into the government-funded Australian Science Education Project, which was initially located at the ACER and maintained close links with the Council after the staff moved to a nearby location. The JSSP materials have been sold overseas, as well as in Australia, and these ventures have resulted in a revolutionary advance in secondary school science teaching.
- In 1964 and 1975, at the request of the Directors-General of Education, the ACER organized two conferences on the teaching of mathematics in primary schools in Australia. Following the first of these conferences, work commenced at the ACER on the *Individual Mathematics Programme*. These educational materials together with a guidebook, *Background in Mathematics*, greatly facilitated the introduction of the new approach to mathematics teaching in Australian primary schools.
- In the teaching of reading, Dr Radford, through the work of the Council, made a major contribution to primary and junior secondary education. He personally worked on the preparation of *A Word List for Australian Schools*, and ACER staff worked on the preparation and publication of a reading development scheme.
- Dr Radford's initial work with the ACER on the *Review of Education in Australia* led in later years to the formation of a section within the Council concerned with review and comparative studies in Australian education. The *Quarterly Review*, and more recently the *Australian Education Review*, together with many other pub-

lished works describing and commenting on recent developments, bear testimony to his interest in this area.

- In the field of surveys of educational achievement, the ACER has been the Australian agency for conducting and reporting the international IEA comparisons in mathematics and science. In 1975 special tests of numeracy and literacy were developed, administered, and reported on in a study of educational performance for the House of Representatives Select Committee on Specific Learning Difficulties.

Although many similar contributions could be added, these examples, which cover important advances in major areas of education in the last 20 years, are sufficient to illustrate that Dr Radford has possibly been the greatest single influence on the introduction of modern developments in educational practice and research in Australia over this period.

Scholarly Writing

Through his writings Dr Radford has exercised a profound influence on thinking in Australian education. It is interesting to note the many advances made in Australian education which were advocated a few years earlier by Dr Radford. Although it cannot be claimed that he originated all of the ideas underlying these advances, it is certain that he played an important role in bringing about their acceptance by Australian educators. The following list of Dr Radford's publications is by no means complete; only the more important works have been recorded.

The Educational Needs of a Rural Community. 1939.
Review of Education in Australia (senior author in collaboration with others). 1938. 1940-48. 1949-54. 1954-62.
The Speech Vocabulary of Australian Pre-School Children. 1951.
The Non-Government Schools of Australia. 1953.
School Leavers in Australia. 1959-60. 1971-72 (joint author).
A Field for Many Tillings: Research in Education Today. 1964.
Staying Longer at School. 1966.
Research into Education in Australia. 1972.

Adviser to Inquiries and Committees

Dr Radford was an important member or chairman of major inquiries into education in practically every State and Territory of Australia. He was a member of Ministerial Committees of Inquiry into Education in Victoria in 1960 and 1963: among other outcomes, one report resulted in the establishment of La Trobe University. In 1965, he was invited by the then Minister of Education to advise on the structure of examinations in Tasmania. The report from the Committee of Inquiry into Education in South Australia, on which Dr Radford served during 1969 and 1970, has been a blueprint for the develop-

ment of education in that State ever since. In Queensland, also in 1969 and 1970, Dr Radford was Chairman of a committee which inquired into the public examination system, the recommendations of which resulted in the elimination of external examinations in that State. With Dr W D Neal, in 1972, he prepared for the Commonwealth Government a report out of which developed a Commonwealth Teaching Service for the Northern Territory and the Australian Capital Territory.

Dr Radford's work spread to the international field. He led a Unesco team in Northern Rhodesia in 1963; he was Australian representative at a Unesco Conference of Experts on Educational Research at Toronto in 1965; and he was a Council member of the International Association for the Evaluation of Educational Achievement (IEA).

In the late fifties he was one of a few who saw the need for a professional institution for those engaged in education, and whose labours resulted in the founding of the Australian College of Education. He was the foundation Treasurer of the College until 1965, when he became Vice-President. In May 1969 he was elected President of the College, an indication of his standing among his professional colleagues, and in May 1976 was elected an Honorary Fellow of the College.

The influence of Dr Radford on Australian education was exerted in other ways and through other channels. He was a member of the Interim Council of the La Trobe University during its establishment period; he was a part-time member (representing education) of the Australian Broadcasting Control Board from 1961 to 1972; he was for many years a member and Chairman of the Australian Unesco Committee for Education; he was Chairman of the Council of the Melbourne Kindergarten Teachers' College; and he was instrumental in founding the Australian Association for Research in Education.

The above list is far from complete. Other appointments and honours could be added, such as: Officer of the Order of Australia, Honorary Doctor of Law from Monash University, Fellowship of the Academy of the Social Sciences in Australia, member of the Victorian Selection Committee of the Churchill Memorial Trust, and of the Research Committee of the Commonwealth Advisory Committee on Advanced Education, all of which indicate the magnitude of the service that Dr Radford rendered, and some of the recognition he received.

Dr Radford's greatest contribution to Australian education came through his association with the Australian Council for Educational Research, first as its Assistant Director, and then as its Director. Through his ability and integrity he gained the respect, co-operation, and confidence of educators not only in Australia but throughout the world. His staff depended on him for leadership and guidance. Invariably they learnt that, following a discussion with him, their

approach to a research problem had been reshaped and re-directed in ways that were still their own, so making their study more relevant and more worthwhile. A recent report on *Youth Needs and Public Policies* indicates his concern for a critical problem seen, researched, and reported long before others became aware of its urgency. He was always at work before the building was opened, and he took home a full case each night. He was considerate and helpful to his staff, always assisting them with small things as well as with large, frequently in ways they scarcely perceived.

His work was acclaimed during his lifetime by the award of honours, but his memorials will be the institution he fostered and nourished, and the great changes he wrought in Australian education.

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Members of Council for 1976-77

CO-OPTED MEMBERS

Emeritus Professor P H Karmel, AC, CBE, BA, PhD, FACE
Chairman, Australian Universities Commission, Canberra, ACT

*Emeritus Professor P H Partridge, MA, FACE
Australian National University, Canberra, ACT

G A Ramsey, BSc, DipT, DipEd, PhD, MACE
Director, Torrens College of Advanced Education, Adelaide, SA

*Professor R Selby Smith, MA(Oxon), AM(Harv), FACE
Professor of Education, Faculty of Education, University of Tasmania, Hobart, Tasmania

Professor D Spearritt, MA, MEd, EdD
Professor of Education, Department of Education, University of Sydney, Sydney, NSW

*A H Webster, BA, BEc, FACE (Vice-President of the Council)
Former Director of Planning, Education Department, Sydney, NSW

*W. Wood, MA, BEd, FACE (Vice-President of the Council)
Former Chairman, Board of Advanced Education, Brisbane, Queensland

MEMBERS APPOINTED BY THE STATE INSTITUTES FOR EDUCATIONAL RESEARCH

New South Wales

Associate Professor R L Debus, BA, DipEd, PhD, MACE
Professor of Education, Department of Education, University of Sydney, Sydney, NSW

Victoria

G J Whitehead, TPTC, BComm, BEd, MEd, PhD
Executive Officer, Curriculum Services Enquiry, Department of Education, Melbourne, Victoria

Queensland

*S A Rayner, MA, MEd, EdD, FACE (President of the Council)
Registrar, University of Queensland, St Lucia, Queensland

South Australia

R S Coggins, BA, BSc, DipEd, MAIC, FACE
Director, Salisbury College of Advanced Education, Salisbury, SA

*Member of Executive

Western Australia

J Liddelow, BA, BEd(Hons), MEd
Vice-Principal, Churchlands College of Advanced Education, Churchlands, WA

Tasmania

N L Behrens, BA, DipEd, MACE
Research Officer, Department of Education, Hobart, Tasmania

OFFICIAL REPRESENTATIVES

Directors-General of Education

D H Mossenson, MA, BEd, PhD, FACE
Director-General of Education, Perth, WA

Australian Department of Education

C L Beltz, PolSocDrs
First Assistant Secretary, Research and Development, Department of Education, Canberra, ACT

STAFF REPRESENTATIVE

W T Renehan, BA, BEd, MAPsS (until 22 April, 1977)
K Piper, BA(Hons), DipEd (from 22 April, 1977)

DIRECTOR

W C Radford, AO, MBE, MA, MEd, PhD, LLD(Hon), FACE (died 25 November, 1976)
J P Keeves, BSc, DipEd, MEd, PhD, fil dr, FACE (from 20 July, 1977)

Annual Report of the Director

Presented at the Annual Meeting of the Council 13 and 14 October, 1977

INTRODUCTION

Until Dr Radford's death on 25 November, 1976 the Australian Council for Educational Research had been guided and directed by only two men for nearly fifty years. Each had fostered and nourished programs of research and development that reflected the needs of Australian education at the time and their research interests and personal values. Following these two great men, Dr K S Cunningham and Dr W C Radford, is no easy task. They, through their work and that of the Council's staff, have wrought great changes in Australian education. Nevertheless, it is necessary at this time to look ahead and to consider future developments in the research and development program of the ACER. The statement that follows formed the submission I made as Director-elect to the ACER at the Special Meeting of Council on 20 July, 1977.

1 This submission has grown out of discussions with the late Dr Radford on important research questions in Australian education. I believe that he saw very clearly the vital research and development issues for Australian education and sought to promote the examination of these questions and issues, sometimes by the Council and very frequently by other organizations. In the six months since Dr Radford's death I have had informal talks with many people engaged in educational and social science research, concerning important areas for future research activity, and from these discussions have gradually evolved views of my own on the relevance of such research and on an order of priorities.

2 In recent years the staff of the ACER have sought a more active role in the development of the research program of the Council. In part this has arisen from the emergence of other governmental instrumentalities in the field of research and development in education. To name the reformed Education Research and Development Committee, the Curriculum Development Centre, the Schools Commission, and the South Australian Council for Educational Planning and Research, does not exhaust the list of recent entrants to this field. The roles of these institutions have sometimes been to challenge that of the ACER, and as a consequence the staff of the Council have questioned our role in this changing context. The staff have also been greatly concerned about the balance of program of the Council and about the procedures we have adopted in the past for the dissemination of our research findings to interested policy makers, administrators, practising teachers and parents. I have been particularly grateful for the discussions that have been held and the docu-

ments that have been prepared. These have helped in no small way to shape my own thinking and the contents of the submission that I am making.

3 The formulation of a research program should not lead to a static code or policy. This submission is not a final product but rather one further step forward, albeit an important one, that should be challenged and debated. Consequently, I welcome discussion and questioning of the ideas that are presented in this submission, hoping that from this debate a clearer view of the research program of the Council will emerge.

The changing context

4 Fifteen years ago the ACER held it first major Australia-wide Curriculum Conference that resulted in the publication *Each One is Different* and it brought together from the State Departments persons interested in curriculum issues related to catering for individual differences in the classroom. Since that time the Council has been directly involved in the organization of curriculum conferences in the areas of Primary School Mathematics and Science, and has strongly supported the Conferences held by the Australian National Commission for Unesco into the teaching of Mathematics, the Social Sciences and English. The meetings have led to the development of curriculum materials in the areas of reading, study skills, primary school mathematics, junior secondary school science and the social sciences. Just over five years ago the structure of the ACER was changed to establish an area or division concerned with "research and curriculum" but in the intervening years circumstances have changed.

5 With the emergence of the Curriculum Development Centre in Canberra, the development of Teachers' Centres in the administrative regions of each State, the establishment of courses in curriculum theory, development and evaluation in the Universities and Colleges of Advanced Education throughout the Commonwealth, and with the expansion of the State Curriculum and Research Branches, it has become necessary for the ACER to re-examine its program in the area of curriculum research.

6 In the *Forty-Sixth Annual Report 1975-76*, Dr Radford stated:

> The establishment of the Curriculum Development Centre, and the extent of its charter, make it both unnecessary and unwise for ACER to undertake now the kind of curriculum development work represented in the Individual Mathematics Programme and the Junior Secondary Science Project, so long as such activities are a part of the CDC's program.

I would not wish to shift from this view, and believe that the ACER must plan on the assumption that such activities will be part of the program of the Curriculum Development Centre. Consequently, while the ACER should continue to work in the curriculum field, particularly in the area of curriculum evaluation, such activitiy should be in the closest possible collaboration with the CDC and with the State Curriculum and Research Branches and not in competition with them.

7 Ten years ago the ACER sponsored the first major conference on educational research in Australia. From it has grown the Australian Association for Research in Education which has held in successive years seven conferences on educational research. In addition, the Australian Advisory Committee on Research and Development in Education was established following this conference and has had a marked impact on Australian educational research. More recently the AACRDE has been reformed as the Education Research and Development Committee with a more active role of co-ordinating educational research in Australia.

8 Where in the past the ACER sponsored and co-ordinated educational research activities within Australia, this work is now being carried out by the ERDC, a Commonwealth governmental instrumentality. Consequently, the role of the Council must be consolidated as a doer of research rather than as an entrepreneur or promoter and publisher of the research of others. Nevertheless, it would appear desirable that the formal and informal networks already established throughout Australia by the ACER and its affiliated Institutes of Educational Research should not be allowed to wither and atrophy. The ACER and its Institutes should, I believe, continue to sponsor and promote the undertaking and dissemination of research across Australia. This is probably best done through active and lively Institutes in each of the States and through close links with the Australian Association for Research in Education, in addition to the publication of important findings that would not otherwise be circulated in Australia.

9 With so many different bodies entering the field of research in education across Australia it is important for its own health that the ACER maintains close links with these bodies and works in close collaboration with them.

10 Arising out of the necessary reduction of activity in the field of curriculum development, there is a need for the ACER to seek new directions for its program of research. It would seem necessary to open up a new field of research and to continue in this field for a period of perhaps 10 to 15 years until this work is well developed elsewhere. At a later stage the ACER can again re-examine its role and perhaps leave others to carry on work in the field that the ACER has surveyed and tilled.

Basic considerations

11 The ACER would seem to have been engaged traditionally in two important areas of research activity, in addition to that of curriculum research and development. These areas are:

Studies in Measurement and Evaluation The Council has achieved a high degree of eminence both nationally and internationally particularly in those activities that involve the development of tests for educational and psychological purposes. There is no doubt that the work of the Council must continue at full strength in this area.

Studies of Learning and Teaching The Council has been increasingly active in work in this area over the past 15 years. It is an area that has a direct bearing on the work of the schools and on classroom practice, and an area where the findings of research are of direct relevance to schools and classroom teachers as well as to college lecturers, in-service instructors, and curriculum co-ordinators and consultants.

12 There would appear to be a third area which the ACER has touched on, but where a clearly defined program of work has not been developed. This area is perhaps best described as:

Studies in the Social Foundations of Education This field has come into prominence with changing governmental initiatives which in recent years have highlighted the need for further work in the area. It is apparent that an on-going program of research is required. Moreover, I believe it should be undertaken by an independent research institution.

13 The moneys that the ACER obtains to support its program of research in education come to it in four clearly defined ways. These sources of finance are:

(1) a Core Grant in which the moneys from the six State Governments are traditionally matched by a grant from the Commonwealth Government,
(2) specific funding from both governmental and non-governmental instrumentalities to undertake specific projects,
(3) payment coming from a variety of organizations to undertake specific service programs, and
(4) moneys from the provision made by the Council for research and development activities which have been accrued as the result of trading profits.

Each of these four sources of funding is distinct from the other and must serve to support identifiable activities in the Council's research program.

14 It would seem to be important that activities which are funded or paid for as part of a service program should only be undertaken

if they lie within the three broad areas of the research program. The areas of research listed above must serve as domains into which the work of the Council should fit. Linked with each area there should be broad guidelines that will help to determine whether or not a specific project or study should be undertaken.

15 There is thus an urgent need to develop policy statements or guidelines for programs of research in each of these three areas. From these policy statements or guidelines it would be possible to define priorities for allocating scarce resources, for seeking out appropriate funded studies, and for determining whether specific service projects or funded studies could be undertaken.

16 In order to develop such policy statements in each area and to advise on the conduct of studies within each area, it would appear desirable that Advisory or Liaison Committees, one for each area, should be established. The manning of these Advisory Committees might best be achieved with three groups of people so that a balance of interests would result. On the Committee for each area there would be members of staff, members of the Council of the ACER and persons selected because of their expertise in, and knowledge of, the area. These latter people could be drawn from many fields including the Schools Commission, the Tertiary Education Commission, Universities, Colleges of Advanced Education, State Departments, the Curriculum Development Centre, parent and teacher organizations and possibly parliamentary circles. The Director would be an *ex officio* member of each Committee. The convener of each Committee would be the Associate Director working in, and responsible for, the research program in the area of interest.

17 In addition to a research program in each of the three areas referred to above, it is proposed that there should be several Units whose research activities would cut across the programs being carried out in the three areas. These Units would remain relatively small. They would be encouraged to provide services not only to research workers within the institution but also outside it. In addition, they would be expected to carry out their own research activities.

18 There would currently appear to be a need for four Units providing specific services:

(1) *Survey Services* This Unit would continue to undertake research into survey methodology, would continue to undertake some major Australia-wide surveys and would continue to provide advice to research workers on sample design.

(2) *Statistical Analysis and Psychological Measurement Services* Within this Unit research work would be undertaken into latent trait measurement models, criterion-referenced measurement, and the application of Bayesian statistics to educational research. In addition, the Unit would be expected to provide advice to research workers on classical test theory, on traditional proce-

dures of statistical analysis and on more recent developments in statistical analysis, particularly in the areas of confirmatory factor analysis, regression analysis and structural equation models.

(3) *Library and Information Services* Within this Unit a program of bibliographic research would be undertaken, the work on the compilation of the Australian Education Index would be maintained and the provision of services to staff and other libraries would continue.

(4) *Advisory Services* The staff of this Unit would not only continue to provide advice to teachers, counsellors and psychologists, but would also be expected to undertake research into the evaluation of curriculum materials and into the development and revision of materials for sale.

The pattern of research for studies in the social foundations of education

19 In developing a program of research for studies in the social foundations of education several aims for work in the area have been suggested:

(1) the development of guidelines and recommendations for educational and social policy,
(2) the collection and examination of evidence on the implementation of existing policies and on the introduction of new policies,
(3) the evaluation of specific programs, and
(4) the provision of a trained task force to support the work of Commissions, Select Committees and Committees of Enquiry.

20 Perhaps the range of research studies envisaged arising from these stated aims might be most readily understood if a list of examples of such studies were given. The list that follows is not meant to be exhaustive or balanced across the area, but is merely suggestive of the types of studies that might be undertaken:

(1) a study of TAFE institutions similar in nature to the Regional Colleges Study undertaken by the Education Research Unit at the ANU,
(2) studies of the operation of school councils, both those being introduced into the Government school system and those of long standing in the non-government school systems,
(3) studies of community-school relationships and community involvement in education,
(4) the development and use of indices to assess the outcomes of education,
(5) studies of alternatives to formal schooling and the future of formal schooling,

(6) studies of the effectiveness of the counselling procedures in current use and an examination of the extent to which they assist students in the transition from school to work,
(7) studies of the range and effectiveness of educational programs conducted by the Trade Unions for their members and by commercial and industrial organizations for their young worker staff,
(8) manpower forecasting studies in restricted areas where such information is essential for planning purposes,
(9) cost-benefit studies of different educational programs and policies, and
(10) a study of the effects of different forms of examination and accreditation at the terminal secondary school stage on the programs of secondary and tertiary institutions.

21 In the recruitment of staff to work in this area it would be desirable to obtain persons with a variety of skills and experiences in the broad field of the social sciences, rather than persons who have been trained in the behavioural sciences. It is envisaged that there would be appointed to work in the area a limited number of staff with a background in one or more of the fields of economics, philosophy, sociology, particularly with a knowledge of organizations, and political science, particularly with an interest in decision-making processes and skilled in in-depth interviewing. Staff would also be recruited as required to undertake specific funded projects.

22 In the planning and selection of studies in the area it would be important to consider the interests and abilities of the staff available. In addition, it would be desirable that the studies undertaken were Australia-wide in scope, sometimes with a focus on a specific region, State or Territory.

23 This area is seen to be one of considerable importance where little quality research is currently being undertaken in Australia. There is an urgent need for well-researched and factual evidence to be made available for the determination of educational and social policy. Moreover, it is essential for research workers in the field to avoid making, without adequate research evidence, facile comment on each educational innovation and each new educational trend. It would also appear to be essential that leading members of the group have a strong background in economics and quantitative methods, and a training in philosophy and logic so that they might ask critical questions of research being undertaken in the area.

24 The establishment of an Advisory Committee with a sound knowledge of the area of educational and social policy would appear to be an important first step before entering this field of inquiry.

Some thoughts on programs of research in established areas

25 It is essential that work in the two established areas should be maintained and consolidated. To do so would require the appointment of senior staff to lead and direct the research program in each area.

26 Studies of Learning and Teaching

The research program in this area should be directed to the needs of schools and teachers. There would appear to be four important regions in which studies might be undertaken.

(1) *Language Studies* Particularly important are studies of classroom practices which promote growth in the use of the English language in its four forms — spoken, written, visual and aural.

(2) *Concept Development Studies* The ACER has for 10 years past been undertaking studies of factors influencing concept development particularly during the early years of schooling. This work should continue.

(3) *Curriculum Evaluation* The ACER has recently turned its attention towards specialization in the area of curriculum evaluation with studies in the Sciences, Social Sciences, Literacy and Numeracy and more recently in Mathematics and Oracy. Underlying research in the field of curriculum evaluation is the need for work on the philosophical bases of the school curriculum, and into the purposes and functions of different subjects and courses in the total program of the schools.

(4) *Teaching Strategies for Mastery Learning* Consideration could well be given to undertaking a study of teaching strategies for mastery learning. Our IEA colleagues in Israel are planning a co-operative research activity into instructional strategies in the promotion of mastery learning. With the publication of the recent seminal book by Bloom* there is a growing realization within the ACER that lack of finance has prevented us from entering this important field on an earlier occasion.

27 Studies in Measurement and Evaluation

The ACER has been active in the area of test research and development over a long period, and there is a well established program of research activity in progress. The nature of a research and development program to be carried out necessarily depends on the financial support available. The following regions would appear to be of importance:

*Bloom, B S (1976). *Human Characteristics and School Learning.* (McGraw-Hill: New York.)

(1) *Testing Services* The current program includes the construction each year of the ASAT tests, the administration of the Co-operative Scholarship Testing Program, the development of the Law Schools Admissions Test and the development of tests for the Victorian Nursing Council. There has been some reduction in work in this field in recent years with the completion of work for the New South Wales Basic Skills Testing Program.

(2) *Test and Materials Maintenance* The proceeds of the trading operations of the ACER would be used for the purpose of satisfying the urgent need to revise and renorm many of the key educational and psychological tests which the Council is currently marketing. In addition, there is a need to develop new educational materials and to modify overseas tests, assessment instruments and curriculum materials for commercial sale within Australia.

(3) *The Development of New Tests and Instruments for Use by Teachers, Psychologists, and Guidance Officers* It would appear appropriate with funds obtained as part of the Core Grant to undertake research and developmental work in the production of new tests and instruments for use by teachers, psychologists, and guidance officers. Such work could include:
   (a) the development of guidance and counselling instruments to assist school leavers to enter the workforce, to move to appropriate training programs and to form soundly based career interests and expectations,
   (b) the development of new approaches to performance testing in TAFE institutions,
   (c) the development of screening tests to identify children in need of attention,
   (d) the development of a kit of tests to assess competence in the use of the English language.

(4) *Validation Studies* There is a continuing need to undertake work in the validation of tests of cognitive ability and scholastic aptitude. It is important that the rationale of the tests prepared by the Council should be clearly stated and subsequently verified by empirical studies.

Examining the balance of the program of research

28 The research program of the Council is diverse in nature, and must from time to time be examined to determine whether an appropriate balance is being maintained. In the foregoing discussion, attention has been given to areas of research with smaller units linking the work in the broader areas and servicing them as required. The complete program of the Council can be presented under 11 headings

which serve to focus attention on the functions performed by the research studies rather than on the areas in which they are located. Suitable headings for the examination of the Council's program of research and development activities in terms of function would appear to be:

(1) Studies of Educational and Social Policy,
(2) Evaluation Studies of Particular Programs and Policies,
(3) National Studies of Educational Outcomes,
(4) Studies of the Education of Special Groups,
(5) Studies of School and Home Practices,
(6) The Development of Tests and Educational Materials for Use by Teachers and Guidance Officers,
(7) The Development of Tests and Instruments for Use by Psychologists,
(8) Library and Information Services,
(9) Testing Services and Programs,
(10) Consultancy Services, and
(11) Advisory Services.

Under these headings the different research studies can be listed, whether they be funded through the core grant, through special grants, as testing programs or through the sale of educational tests and materials. Such a listing, with an indication of how the project is funded, would serve to indicate the purpose and function of the wide range of activities undertaken by the Council.

29 There are, of course, other ways in which the balance of program might be examined. Perhaps such headings as pre-school, infant, primary, secondary, technical and further, and tertiary might be used to categorize the activities of the Council and thus to identify the educative levels to which our work is directed. While it is probably undesirable that we should ignore completely any one level, it is perhaps important that the Council should direct its attention largely to the primary and secondary school levels.

Concluding comment

30 The Council is seriously deficient in senior staff to assist in the planning and direction of its research program. Consequently, it is essential that as soon as possible, when both adequate finance and quality applicants are available, three appointments be made at the level of Assistant Director (Reader) or Associate Director (Professorial Research Fellow) to guide the work in the three main areas outlined above. It would also seem desirable that at least one of the three appointments to be made should, in the future, be at the level of Deputy Director (Professor) to share in the supervision of research.

31 One of the major concerns of a complex organization such as

the ACER which carries out research, service and commercial activities, is the administration of its day by day operations. Experiences in recent years with appointments to undertake such executive work have been far from encouraging. In part, the complexity of the organization has confused and confounded the Executive Officers attempting this work. There is much to be said for appointing an Administrative Assistant to the Director, at a relatively junior level, and allowing him to grow into a more senior executive role. However, with limited financial resources, it will probably be necessary for a sharing of administration among the Director, Assistant Directors and Accountant until such time as sound and commonly agreed upon procedures are established. At a later stage, it would be desirable to pass some of the general administrative work over to a Senior Executive Officer or an Administrative Assistant.

32 The commercial activities of the ACER are largely associated with the Publishing Section and the Distribution Services Division. Consideration must be given in the coming years to whether the work of the Council would be more effective if these commercial activities were undertaken by a separate organization and the profits passed over to the research arm to prepare research based materials for sale and to undertake research and development work considered by the Council to be relevant and complementary to its general program. It might be anticipated that with the separation of a commercial arm from the research arm, each would move more freely. In time the commercial arm would grow to support the additional senior staff which would be needed to administer the commercial activities and would still return to the research organization moneys equivalent to those being received today. Whatever else may be said about the commercial side to the activities of the Australian Council for Educational Research, these activities have helped keep the ACER solvent, and have, in recent months, saved the Council from the embarrasment of asking tenured staff to resign.

33 Recruitment of staff is a further important issue which faces the Council. During the past few years, standards of training in the field of educational research have changed to a marked degree. Moreover, the range of skills and abilities required to undertake educational research have also changed significantly. Where 20 years ago a good first degree, and a bachelor's degree in education together with classroom experience were sound prerequisites for entering the field of educational research, it is becoming increasingly apparent that without a higher degree, and possibly a doctoral degree, together with other appropriate experience, a person has little chance of entering the field of educational research with an appointment at the level of Senior Research Officer (Lecturer) or above. Moreover, a person could be of very limited value without such qualifications. Indeed, it might be anticipated that, in future, appointments at the

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level of Research Officer (Senior Tutor) would probably require a higher degree and the Council would give internship training in educational research to the would-be researcher. This rapid rise in the prerequisite qualifications for entry into research work in education is not merely an outcome of limited employment opportunities, but rather a consequence of the requirement that a person entering the field of educational research must have demonstrated his competence to undertake research and to produce a scholarly report. Nevertheless, it is also important that the Council should recruit to its staff persons with a sound knowledge of the work of schools at the primary or secondary levels.

34 There is always the danger that a research institution might become inbred, introspective and unrelated to an outside world of schools and classrooms. One of the ways in which such limitations in its thinking could be countered would be by ensuring a turnover of staff at the junior and middle level ranges. Thus, it might be argued that a healthy and balanced research institution should have no more than 50 per cent of its research staff in tenured positions. For those staff in non-tenured positions it would seem desirable that they joined the institution for a limited period of time to undertake a specific project, to report on that propect, and to move on with increased experience to another post. It is important that work with the Council should be directed towards a specific goal and staff should know that with the attainment of the goal they would be well placed to gain promotion or to move to a more senior position. Such middle-term staff appointments, who would be employed by the Council for a period of two to four years, have an important contribution to make to the health of the institution by joining in its seminars and debates and by informal discussions in the tea room. Yet it is also important that they should gain research experience from the institution and should use the opportunities provided to produce a piece of high quality research.

35 The ACER currently employs about 40 professional staff who are engaged in research and development activities. If it were to grow much larger divisions and rifts might occur within the institution. Clearly, it could not grow without the erection of a new building as an extension of the existing premises. Whatever the size, it is important to develop an harmonious atmosphere where debate focuses on questions of inquiry, investigation and research. Thus, the Council should appoint to its staff able and enthusiastic research workers who will contribute to its discussions, and who will raise methodological and substantive issues, who will use its library to search out answers to questions raised, and who will produce stimulating and yet scientifically sound reports of research carried out. To generate high quality research the Council needs able people, a stimulating climate, and a high standard of industry.

SURVEYS

Aboriginal Education Project

Marion M de Lemos, Linda K Schrom (from March, 1977), Robert W Davey (to February, 1977)

(This project is included in the ACER Core Program and at an earlier stage received a grant from the Victorian Department of Aboriginal Affairs.)

The report on the Aboriginal secondary school testing program is in the final stages of preparation. This report will complete the work on the Aboriginal Education Project, and covers the results of the tests administered in Victoria to the total Aboriginal 14-year-old population and two comparison groups of non-Aboriginal students, drawn from the same schools as the Aboriginal students. These students were also interviewed to obtain information on their educational and occupational aspirations, and information on whether the students left school during or at the end of the year in which they turned 15 was also obtained.

The results of the study indicated that the Aboriginal students scored consistently lower than the non-Aboriginal students on the tests of achievement in reading and mathematics and on the general ability test. There were, however, no marked differences between the Aboriginal and the non-Aboriginal students in their attitudes to school and in their self-concept as assessed by Like School, Academic Motivation and Self-regard scales. There was, in fact, some tendency for the lower ability non-Aboriginal students to score lower on the attitude scales than the Aboriginal students, even though these students scored higher than the Aboriginal students on the achievement tests.

An analysis of the factors related to test performance indicated that the most important predictor of test score was generally father's occupation. Type of school attended (high or technical) tended to be a more important predictor of scores for the non-Aboriginal students, while location of school (country or metropolitan) tended to be a more important predictor of achievement test scores for the Aboriginal students. In the case of the attitude scales, teachers' assessment of potential tended to be the most important predictor of scores for both the Aboriginal and the non-Aboriginal students. Other important predictors of attitudes for the Aboriginal group were father's occupation, degree of Aboriginality, type of school attended, and location of school, while for the non-Aboriginal group the only other predictor explaining a substantial proportion of the variance on the attitude scales was father's occupation.

The most important factors related to whether the student left school or stayed on at school were generally the student's ability, as assessed by the teacher or as measured by scores on the achievement

tests, and scores on the Like School scale. In the Aboriginal group the Like School score was the most important predictor of school leaving, while in the non-Aboriginal group the most important predictor of school leaving was the teacher's assessment of potential.

Australian Social Area Analyses

Kenneth N Ross, Lincoln A Bennett

(This project is included in the ACER Core Program.)

This study aims to develop and then validate several indicators based on census-derived demographic variables which are optimally correlated with measures of the basic skills of literacy and numeracy obtained from a national survey of Australian 10-year-old and 14-year-old students.

In this survey, data were collected for 6628 10-year-olds in 272 schools, and 6247 14-year-olds in 257 schools across Australia. The samples were drawn so that within each state, each student in the appropriate target population had an equal chance of being selected and each school was chosen with a probability proportional to size. Initial work was undertaken to examine between school differences and a chapter prepared for the report of that project on demographic factors accounting for between school differences.

As part of the testing program each student was required to provide his full home address. With the aid of census maps, street directories and telephone books, each of these addresses is being linked to a particular collectors district number which in turn may be linked to computer tape stored census data which describe this collectors district.

The majority of the linking work for both samples of students has been completed. However, groups of students living in the more isolated areas of Australia have required the use of more specialized, but unpublished, census maps. The Australian Bureau of Statistics has made these maps available to the ACER and we now expect the whole linking operation to be completed shortly.

After the data from the two sources have been linked to form one computer stored data file for the individuals in each age group, another data file aggregated over schools will be created. Parallel data analyses will be carried out over four separated data files which represent two levels of data aggregation and two levels of student age.

It is expected that several parsimonious indicators will emerge from these analyses. The stability of the coefficients associated with the variables in these indicators cannot be assessed with the usual sampling error formulae because the data were gathered by using complex sample designs. In order to assess the stability of these coefficients, Tukey's 'Jack-knife' technique will be employed.

Publications and Papers

Ross, K N 'Some Demographic Influences on Variation between Schools'. In S F Bourke and J P Keeves (eds) *The Mastery of Literacy and Numeracy. Australian Studies in School Performance. Volume III.* (Australian Government Publishing Service: Canberra [in press].)

IEA Studies in Mathematics and Science

IEA Data Banks

John P Keeves

(This project is included in the ACER Core Program.)

Interest has been shown in the IEA Data Banks during the current year. Complete files of the International Bank are held at the Research School of Social Sciences, Australian National University and at the ACER. In addition, files of the Australian Data Bank are held at the University of Melbourne and at The Flinders University of South Australia.

These files have been used for three studies during the current year.

1 Ms Julie Lundberg, Department of Sociology, SGS, ANU.
  Topic: Swedish Educational Policy and the Manifest and Latent Socialization of Final Year Students in the Gymnasium.
2 Dr P McDonnell, Department of Sociology, RSSS, ANU.
  Topic: A Comparative Analysis of School Effects on Educational Intentions (study completed).
3 Mr R Cross, Faculty of Education, University of Melbourne.
  Topic: Distinguishing the Science Content Taken by Year 12 Students (study completed).

It is anticipated that the reports of the completed studies will be published in the IEA (Australia) Report Series.

IEA Population II Follow-Up

Malcolm J Rosier

(This project is included in the ACER Core Program.)

Further information was collected in 1972 from students who had been members of the Population II (14-year-old) sample for the IEA Science Project in 1970.

A draft has been completed of the report of this study which focuses on the school termination decision (the decision of the 16-year-old student to remain at school, or to leave) as its criterion.

The underlying causal model contains four blocks of factors

arranged in temporal sequence. These blocks measure the family environment, school environment, personal factors at age 14 years, and personal factors at age 16 years. Each of the blocks is examined in turn, to assess the relative importance of the basic constituent factors. For each block, other important factors are also examined to assess the marginal contribution, over and above that explained by the set of basic factors.

Overall, the study attempts to untangle some of the complex factors involved in the termination decision of a young person in the context of the Australian system of education with its characteristic differences between States, schools, and students.

IEA Population IV Follow-Up and Science Specialist Study

John P Keeves, Ramon Lewis, Linda K Schrom

(This project is included in the ACER Core Program, but at an earlier stage received a supplementary grant from the AACRDE.)

Further data were collected in 1972 from the members of the terminal secondary school sample of the IEA Science Project in 1970.

Work on the analysis of these data has proceeded at a steady pace during the current year. With an interest in the issues of transition from school to work and further education, the analyses undertaken have been directed towards these questions.

Publications and Papers

Lewis, R (1976). *Transition from School to Post-secondary Education in Australia. IEA (Australia) Report Series. 1976:1.* (ACER: Hawthorn, Victoria.)

Keeves, J P (1976).*Curricular Factors Influencing School Learning: Time and Opportunity to Learn. IEA (Australia) Report Series. 1976:2.* (ACER: Hawthorn, Victoria.)

Lewis, R (1977). *Transition from Schooling at Year 12 to Work in Australia. IEA (Australia) Report Series. 1976:3.* (ACER: Hawthorn, Victoria.)

Keeves, J P (1976). 'Curricular Factors Influencing School Learning'. *Studies in Educational Evaluation*, **2**(3): 167-184.

Lewis, R 'Social Class Bias in Transition from School to Study in Tertiary Institutions in Victoria'. *Victorian Institute of Educational Research Bulletin* (in press).

Keeves, J P and Schrom, L K (1977). 'Sex Differences: Performance in Science and Transition from School to Work'. Paper delivered at ANZAAS Congress, Melbourne.

IEA Second Mathematics Project

Malcolm J Rosier

(This project is included in the ACER Core Program.)

Further work has been undertaken in preparation for the IEA Second Mathematics Project. In particular, assistance has been given to the international committee guiding the project with respect to the basic sampling design for use in the participating countries. Work was also carried out on the analysis of Australian mathematics curricula at the lower and upper secondary levels.

It has become necessary to postpone the first stage of this study, with the testing program for this first stage now scheduled for August 1978, although the schedule is not yet confirmed internationally.

Language and Conceptual Abilities of Pre-School Children

Marion M de Lemos, Patricia M Larsen

(This project is included in the ACER Core Program, and at an earlier stage received a supplementary grant from the AACRDE.)

A summary paper on the preliminary results of the Survey of School Readiness and School Achievement was prepared and distributed to the schools who participated in the study. Copies of this paper have also been sent to the Director of Primary Education in Victoria, the Education Research and Development Committee, and other interested researchers.

Work is proceeding on the Final Report on this study, which will include the more detailed statistical analysis.

Some preliminary work on the analysis of the results of the pre-school sample have been undertaken. Further work on the analysis of these data is being undertaken, and it is hoped that the Final Report on this study will be completed in 1978.

Parish Primary School Survey

Jack P Darmody, Lincoln A Bennett, Helga A H Rowe

(This survey was a joint project of the Catholic Education Office of Victoria and the ACER and was carried out at the ACER during 1976.)

The purpose of the study was to provide a description of the needs of children within the population of Parish Primary Schools. An investigation was made of the school performance and of a number of performance-related factors of seven-, nine- and 11-year-old children attending Catholic schools in Victoria designated as Parish Primary Schools.

The sample consisting of 1152 seven-year-olds, 1148 nine-year-olds and 1152 11-year-olds was chosen by stratified simple random selection. Test materials included criterion-referenced achievement tests, developed previously by the ACER for the Australian Study of School Performance, tests of general ability, and questionnaires describing the general adjustment of children and a variety of environmental factors relating to school and home.

The results of the survey showed a significant and positive correlation between all measures of classroom performance. Children who were disadvantaged in terms of their score in one area tended to be disadvantaged on all measures. There was little evidence of what has come to be referred to as 'specific learning disabilities'. It was found that throughout the schools the children most at risk were those who achieve at relatively low levels in reading and number work. Such children were regarded to be at risk not only because of their low academic achievement, but because they tended to share a cluster of attributes suggestive of disadvantage in a number of personal and environmental areas.

Publications and Papers

Darmody, J P (1977). *Parish Primary School Survey 1976. An Interim Report.* (ACER: Hawthorn, Victoria.)

Research into Sampling Errors

Kenneth N Ross, Lincoln A Bennett

(This project is included in the ACER Core Program.)

A study of the accuracy of empirical sampling error estimation procedures is being undertaken. Following the publication of *Searching for Uncertainty*, work is being carried out on the preparation of a monograph entitled *Sample Design for Educational Survey Research* for the *Evaluation in Education* international review series published by Pergamon Press.

This monograph examines the characteristics of five sample designs which are commonly used in educational survey research. Empirical sampling techniques are used with an actual population of educational research data to generate the sampling distributions of a range of statistics which are required for typical structural equation models. The selection of observations in clusters is shown to result in a substantial increase in the sampling errors of these statistics compared with the sampling errors which are associated with the independent selection of observations. The techniques of 'jack-knifing' and 'balanced repeated replication' are applied to single samples of data to test their capacity to estimate the sampling errors of several multivariate statistics.

In addition, work is being done to examine the accuracy of a new approach to the application of the Taylor-series technique which has been developed by the United States Bureau of the Census. The computer program which will be used to carry out the necessary calculations for the Taylor-series technique is being prepared and tested in collaboration with the staff of the Survey Research Centre at the Australian National University.

The data which will be employed for the error calculations have been generated by the use of several computer programs which simulate the tedious and time consuming work required to obtain complex two-stage cluster samples from population data. The data analysis stage of the project will proceed when the statistical procedures which were devised to test the effectiveness of the computer simulation have been checked. This check of statistical procedures has proven more difficult than was originally expected and we are indebted to a former staff member of the ACER, Dr A W Davis of the CSIRO Division of Mathematical Statistics, for his assistance with this task.

Publications and Papers

Ross, K N (1976). *Searching for Uncertainty. Occasional Paper No. 9.* (ACER: Hawthorn, Victoria.)

Ross, K N (1976). 'An Empirical Investigation of Sampling Errors in Educational Survey Research'. Paper delivered at AARE Conference, Brisbane.

Study of Educational Performance and Specific Learning Difficulties

Sidney F Bourke, John P Keeves, Ramon Lewis

(This project is included in the ACER Core Program. Although formally commissioned by the Education Research and Development Committee, its importance is such that a substantial amount of core funding has been involved in it.)

The first two volumes of the *Australian Studies in School Performance*, which were written and published in 1976, were summarized in the 1975-76 Annual Report.

During the period covered by this current report, the project was continued and completed in May 1977. In May, Volume III of the *Australian Studies in School Performance* was sent to the Education Research and Development Committee for publication by the Australian Government Publishing Service.

In June 1977, data tapes of the results were sent to all State and Territory Education Departments for use by their research branch staff and by other researchers. A large number of lectures on the results and implications of the study have been given to various

in-service courses for teachers, professional associations and other community groups.

The first two volumes have given rise to a considerable degree of interest and it is already apparent that this research is having, and will continue to have, considerable impact. For example, it will probably influence school practice, the provision of remedial education in schools, and the nature of programs provided by teacher education institutions throughout Australia.

The third volume reports the performance of students in terms of mastery of the tasks tested in the criterion-referenced tests used. The items used to test a specific task were a representative, but not a random sample of all possible items which could be used to measure performance on the task. For mastery, a student was required to be able to answer at least 80 per cent of all possible items related to a specific content area, a particular ability or a particular field of usage. It was therefore necessary to establish a procedure for determining cutting scores which could be used to differentiate between mastery and non-mastery students for each test and sub-test. A Bayesian, decision-theoretic approach which minimized the overall probability of classification errors, and which took account of losses and gains arising from subsequent actions, of errors due to carelessness and guessing and of previous knowledge about student performance, was used to calculate appropriate cutting scores. An interesting aspect of the method used was that these considerations frequently led to the cutting score being somewhat lower than 80 per cent of the actual items used in a test or sub-test. Chapters have been written for this final report by staff from other sections of the ACER which are related to their specific projects, and by Mr M Hamerston of Hawthorn State College, Mr R Hewitt of Melbourne State College, and Mr B Parkin of the Western Australian Education Department.

Very high proportions of the 10-year-old and 14-year-old students mastered the basic reading tasks of reading simple sentences and being able to use syntactical rules as an aid to understanding. Similarly high proportions mastered the numeration tasks of addition and, to a lesser extent, subtraction and money problems. Much smaller proportions of students at both age levels mastered the reading sub-tests requiring comprehension of continuous prose and other reading tasks concerned with newspaper reading. Considerably lower proportions of students also mastered numeration sub-tasks related to multiplication and division operations and other tasks such as measurement. Where the same items were used at both age levels for the reading and for the numeration tests, there were markedly higher proportions of 14-year-old students who mastered the tests than was the case for the 10-year-old students.

As might be expected, mastery of the reading and numeration tests was highly related, although between one-fifth and one-third of the

students at both age levels achieved mastery of one test but not the other. When results on specific sub-tests were examined, it was found that the relationships between mastery of the reading and numeration tests were not dependent on a reading component of the numeration tests.

Mastery of the writing tasks which could be marked according to specific criteria was reported previously. The productivity or number of words written and the number of spelling errors per 100 words written in response to some tasks were also calculated. It was found that the productivity of a student was positively related to the general quality of his written expression, as measured by the impression marks awarded, and that this relationship was stronger at the 14-year-old level. Students who wrote more also made proportionally fewer spelling errors and, although the 14-year-old students tended to use more difficult words, they wrote approximately twice as many words per spelling error as the 10-year-old students. Results on the writing tests also revealed clear relationships between performance in writing and performance on the reading and word knowledge tests, emphasizing the unity of factors which are associated with literacy and language development in general.

In addition to the performance of all students, the report discusses the performance of specific groups of students including Aborigines, students from other ethnic backgrounds and students with learning handicaps. Some demographic influences on variations in student performance between schools were also investigated and reported in Volume III.

The final report of this study raises the possibility that the right of every child to master the basic skills could be denied if teachers do not have the necessary skills to undertake the work required of them in this area. The dimensions of the problems posed are such that the training of classroom teachers must enable them to detect and to handle the learning problems of the students in their classrooms. In addition, it is argued that it is the responsibility of research workers and teacher educators to develop and teach new strategies for the identification of learning difficulties, for the more effective teaching of the basic skills, and for providing remedial assistance in the classroom setting. It is contended that the substantial numbers of students who are failing to master the basic reading, writing and number tasks assessed in this study will be disadvantaged in progress through the school system and in their everyday lives, unless the necessary corrective action is taken.

Publications and Papers

Keeves, J P and Bourke, S F (1976). *Literacy and Numeracy in Australian Schools: A First Report. Australian Studies in School*

Performance. Volume I. (Australian Government Publishing Service: Canberra.)
Bourke, S F and Lewis, R (1976). *Literacy and Numeracy in Australian Schools: Item Report. Australian Studies in School Performance. Volume II.* (Australian Government Publishing Service: Canberra.)
Bourke, S F and Keeves, J P (eds). *The Mastery of Literacy and Numeracy. Australian Studies in School Performance. Volume III.* (Australian Government Publishing Service: Canberra.)
ACER (1976). *Development of the Reading Tests. Australian Studies in School Performance.* (ACER: Hawthorn, Victoria.)
ACER (1976). *Development of the Writing Tests. Australian Studies in School Performance.* (ACER: Hawthorn, Victoria.)
ACER (1976). *Development of the Numeration Tests. Australian Studies in School Performance.* (ACER: Hawthorn, Victoria.)
Bourke, S F (1976). 'Functional Literacy and Numeracy of Australian 14-Year-Olds'. In J Elkins (ed) *From School to Work.* (University of Queensland: St Lucia.)
Bourke, S F (1977). 'Student Performance in the Basic Skills'. In *Education Australia*, **1**(1): 17-20.
Keeves, J P (1977). 'Literacy and Numeracy in Perspective'. In M L Clark (ed) *Issues in Educational Research III.* Western Australian Institute for Educational Research.
Keeves, J P and Bourke, S F (1976). 'Literacy and Numeracy in Victorian Schools'. In *Victorian Institute of Educational Research Bulletin*. **36**: 55-62.

Teacher Development Evaluation

Margaret Batten, Virginia Carter

(This project is funded by the Schools Commission.)

The purpose of the project is to evaluate the effectiveness of the Schools Commission's Teacher Development Program. An extension of six months was granted to the project, which will now be completed by 31 December, 1977. Additional funding was made available to the ACER in September 1976 to include in the evaluation a special study of education centres (undertaken by consultant Dr B Fallon).

Interviews have been conducted with members of State and regional development committees, including system level, teacher and parent representatives, to determine the degree to which Schools Commission emphases (as identified in Commission reports) have been incorporated in the Teacher Development Program.

Information on the experience and opinions of teachers in all States, on in-service education in general and the Schools Commission Program in particular, has been obtained from questionnaires and structured discussions.

A special study has been made of long-term courses of various types — two, five, six and 12-week courses, and courses requiring attendance one evening a week over an extended period. Information has been obtained, through discussion and questionnaires, from organizers and participants in courses in Queensland, Tasmania, Western Australia and Victoria.

A special study has also been made of school-based teacher development. Questionnaires have been sent to participants in Commission funded school-based activities in all States. Three schools, two in Victoria and one in Tasmania, have been used as case-studies. Frequent visits have been made to the schools to follow the progress of a Commission funded activity from the planning stage through the actual activity to the follow-up and implementation stage. Information has also been collected from principals and staff about the impact of different types of in-service education on school and individual development.

Publications and Papers

Batten, M (1977). *National Evaluation of the Schools Commission Development Program.* (ACER: Hawthorn, Victoria.) (First Report to Schools Commission.)

REVIEWS AND COMPARATIVE STUDIES

Australian Education Review

Derrick Tomlinson, Jennifer K Matthews

(This project is included in the ACER Core Program.)

A change in editorship and some disappointments from contributors who promised manuscripts has retarded the publication of the *Australian Education Review*. As a consequence only two numbers have been published during the period under review.

Cleverley, J and Jones, P. *Australian and International Education: Some Critical Issues. Australian Education Review No. 7.* (ACER: Hawthorn, Victoria.)

Tomlinson, D. *The Liberal Party: Politics and Education Policy. Australian Education Review No. 8.* (ACER: Hawthorn, Victoria.)

Unesco Abstracts

Jennifer K Matthews

(This project is included in the ACER Core Program and is funded in part by payment from IBE, Geneva.)

Abstracts of important Australian reports on education continue to be provided to the Unesco Institute — International Bureau of

Education. During the year abstracts have been prepared on four major reports. These are:

Australian Government Commission of Inquiry into Poverty (1976). *Fifth Main Report.* Dr R T Fitzgerald, Commissioner. (Australian Government Publishing Service: Canberra.)

OECD Education Committee. *Review of Educational Policy in Australia. Examiners Report and Questions.* (OECD: Paris.) (in press).

Watts, B H (1976). *Access to Education. An Evaluation of the Aboriginal Secondary Grants Scheme.* (Australian Government Publishing Service: Canberra.)

Keeves, J P and Bourke, S F (1976). *Australian Studies in School Performance. Volumes I, II and III.* (Australian Government Publishing Service: Canberra.)

Social Science Curriculum Materials (Desert Aborigines)

Jennifer K Matthews

(This project was included in the ACER Core Program.)

A set of curriculum materials concerned with the impact of social change on the Aborigines of the Western Desert was extensively revised during 1976 to eliminate bias and distortion, following criticisms by Aboriginal groups. The materials were tried out in three schools during third term of 1976 and further modifications were made. In early 1977 they were sent to several commercial publishers for consideration.

CURRICULUM INNOVATION AND EVALUATION

Curriculum Materials Evaluation

Peter Jeffery, Raymond F Smith (until December, 1976)

(This project is funded by ACER's income from sales. Mr Smith was seconded from the Victorian Department of Education.)

The evaluation of curriculum materials has been an ongoing area of research and a survey of the literature on instruments for the evaluation of curriculum materials has been undertaken. Subsequently a new guide for teachers wishing to evaluate curriculum materials was prepared.

In another study in this area, a simple random sample of 750 primary, secondary and technical government school teachers in Victoria was drawn and the teachers asked to complete a questionnaire designed to investigate formal and informal sources of information about educational materials. The information collected

has been coded and punched and all data are now ready for processing and analysis.

Education for Leisure

Douglas W Fox, Jeffery J Clancy

(This project is funded by a grant from the Australian Government, Department of Environment, Housing and Community Development.)

The purpose of this study is to examine the role and influence of the Australian secondary school in relation to young people's leisure and recreation interests, attitudes and activities.

Data collection for the study has been designed to seek a balance between quantitative evidence arising from a large-scale questionnaire survey approach, and descriptive, opinionative evidence collected during discussions with students and teachers. The major part of this data collection has been completed. In total, the sample involved some 7000 students from Years 8 and 11 in 120 secondary schools around Australia.

Detailed analyses of the questionnaire data and the tape recorded discussion sessions are being carried out. These analyses will be supplemented by case studies of a selection of schools which have interesting programs or approaches to leisure education. Two such case study visits were completed during July 1977 and a further four or five are planned for September and October.

Whilst it would be premature to report findings at this stage, clear evidence is emerging of differences which exist in the leisure socialization environments operating within secondary schools. The main thrust of analyses is to investigate the effects of these school 'environment press' differences on the leisure interests and attitudes of the students. A final report on the project is expected in June 1978.

Publications and Papers

Fox, D W and Clancy, J J (1976). 'Educating for leisure: hypotheses for study of how the secondary school educates for leisure'. Paper delivered at the SAANZ Conference, Melbourne.

Keeves, J P (1976). 'Youth needs in leisure and their implications for education'. Paper delivered at the SAANZ Conference, Melbourne.

Essential Learning About Society

Kevin Piper

(This project is funded by the Education Research and Development Committee.)

The study sought to identify what elements of social learning, if any, could be considered essential, and to what extent there was agreement among various groups in Australian society on this question. The

first stage of the study involved the formulation of a set of items constituting an hypothesis as to the nature of essential learning about society. This formed the basis for a questionnaire survey of 10 groups representing both educators and the wider community. The questionnaire data were supplemented by interviews with ethnic minority groups.

The study has identified 33 key items of social learning, all of which were agreed to be important and 12 of which were seen by a clear majority of respondents to be essential. The strongest support came for items dealing with inquiry and decision-making skills, personal development, and the skills of social interaction.

While there were considerable areas of agreement between groups, each group was revealed to have a distinctive group viewpoint on what constituted essential learning about society. Age and sex differences were also revealed, but there was little evidence of difference between the States, or between State and independent schools.

Two reports of the study were prepared and published. A summary report has also been prepared, and widely distributed. The reports have aroused considerable interest, and curriculum bodies in several States are making use of the findings in the development of new curricula in the social sciences.

Publications and Papers

Piper, K (1977). *Essential Learning About Society: An Investigation into Learning for Social Competence.* (ACER: Hawthorn, Victoria.)
Piper, K (1977). *Essential Learning About Society: Item Supplement.* (ACER Hawthorn, Victoria.)

Impact of the Australian Science Education Project (ASEP)

John M Owen

(This project is funded by the Curriculum Development Centre.)

The project concluded in April, 1977 when a report was forwarded to the funding agent, the Curriculum Development Centre. The study assessed the degree to which the ASEP materials had been purchased and used in schools, the extent to which the ideas underlying the ASEP project had formed the basis of course planning in Science, and the reactions of teachers to the materials.

Analysis of data collected by questionnaire from teachers in 260 schools throughout Australia showed that the degree of use varied significantly from State to State. This result implied that to present a comprehensive account of the impact of the ASEP materials required an analysis of systemic conditions, in addition to school conditions. Further information was therefore gathered through interviews with teachers, other science educators, administrators and others

during visits to each State. Records held by education authorities were also consulted.

School effects were examined by first clustering schools, within States, with similar profiles. Extent of use of the ASEP materials over time and organizational characteristics of the adopting group, the Science Department, were the two sets of variables used in the cluster analysis.

The following conclusions were reached:

1 By mid-1976, 70 per cent of secondary schools had purchased some ASEP units. Extent of purchase varied widely both within and between States. In general, there was a preference for units which were easily recognizable as presenting subject matter based on traditional subject areas within disciplines. After very high purchasing by schools in 1974 and 1975, there had been a tapering off of sales in 1976 and 1977.

2 Three factors at the State level were put forward to explain the State differences. These were the historical deevlopment of trends in Science teaching, the support given at the State level to the ASEP project during the development phase, and the extent of assistance given to schools for course development since the ASEP project disbanded in 1974.

3 If a Science co-ordinator had taken part in the trial of the ASEP materials during the formative stage of the project, there was more chance that the ASEP approach had affected the planning and execution of Science programs than if he had not. In-service training and consultancy services were valuable elements in disseminating information about the Project.

4 Reaction to the use of the ASEP materials by teachers showed similarities between States. In general, a majority of respondents reacted positively to use of the materials. Most favoured aspects were the unitized nature of the package, and the availability of interdisciplinary units and their influence in classes which catered for individual differences. On the other hand, teachers found that student comprehension of written instructions was often a difficulty in implementing the units. Teachers also reported that there was a lack of emphasis on the acquisition of knowledge by students when the ASEP units were used.

Publications and Papers

Owen, J M (1976). 'The Diffusion and Utilization of the Australian Science Education Project Materials'. *Victorian Institute of Educational Research Bulletin*. **36**: 40-53.

Owen, J M (1976). 'Three Years On: The Impact of ASEP Materials in Australian Schools'. *Australian Science Teachers Journal*. **22**, 3, 15-25.

Owen, J M (1977). *The Impact of the Australian Science Education*

Project on Schools. (ACER: Hawthorn, Victoria.) (Final draft of Report to CDC.)
Owen, J M (1977). 'School Factors affecting Curriculum Change in Science'. Paper delivered to ASERA Conference, Wagga Wagga.
Owen, J M (1977). 'Curriculum Change in Science'. Paper delivered at Annual Meeting, VIER, Melbourne.
Owen, J M (1977). 'An Overview of the Impact of the Australian Science Education Project'. Paper delivered at SEMP Education Conference, Canberra.

Language of Primary School Children

William T Renehan

(This project is included in the ACER Core Program.)

The first report of this project has been completed for publication. *Seven-Year-Olds: Talking and Writing* describes and attempts to interpret, in terms of language function, the talk and writing of 15 children, each taken from a different school. The original aim of the project was to provide quantitative information about the use of syntactic structures and range of lexicon. However, while the book does provide extensive linguistic analysis of the speech and writing of Grade 2 children, its interest is by no means a purely specialist one. The first half of the book contains and comments on the transcripts of the conversations which form the basis for the linguistic analysis, and these provide insight for the general reader into the social interaction of children, and the regulatory and manipulative role language can play in it. The second half of the book is given over to a more specialized study of the children's language, and also contains reproductions of their writing samples.

National Assessment of Educational Progress

Barbara Johnson, the late Dr William C Radford (Chairman to 25 November, 1976.)

(This project is funded by the Education Research and Development Committee.)

In 1976 a study group was formed under the chairmanship of Dr Radford and at the request of the Minister for Education, Senator J L Carrick, to consider and report on the need in Australia for a program for the national assessment of educational progress. The people invited to join the study group were Mrs J Blackburn, Professor B Crittenden, Mr R Harris, Professor K B Start, Dr M Skilbeck, and Mr A H Webster. Following Dr Radford's death, Mr

Webster took the position of chairman. Ms B Johnson has acted as secretary for the committee since its inception.

The study group has met regularly and plans to present a report by the end of 1977.

Response to the Reading of Fiction

Audrey N Grant

(This project is funded by the Education Research and Development Committee.)

A general outline of the aims and design of this project appeared in the 1975-76 Annual Report. The main phases of the study in 1976-77 consisted of a second interview with pupils selected for the case studies, further detailed analysis of interview transcripts, and the preparation of the final report.

Twelve of the pupils were interviewed again, in 1976, a year after their first interview. The second interview elicited pupils' responses to a three-part short story presenting a family conflict situation, and then invited consideration of the interviewee's own experience of family. A projective technique was used for eliciting response to the story.

The theoretical understanding of the reading process which underlies the thrust of the whole study (and is well illustrated by the interview transcripts), is that the reading process is best understood as reading for meaning; that reading is an interactive process between reader and text, necessitating the generation of expectations by the reader, the reader's role being creative and dynamic, and not one of passive reception of a printed message. Further, that reading, like learning and thought, is personal, embedded in person-in-society experience.

Science Facilities Evaluation Project

John G Ainley

(This project is funded by the Schools Commission.)

This study sought to examine the influence which the Australian Science Facilities Program had upon science education in Australian secondary schools. Under this program, which operated from 1964 to 1975, some $123 million were made available for the improvement of science facilities in schools. The money was spent on laboratories and apparatus in government and non-government schools.

The evaluation was undertaken at the request of the committee responsible for advising the Commonwealth Government on the

Program and was supported by a grant from the Schools Commission. The methods used in the study included surveys, case study interviews with science teachers, questionnaires to Year 9 students, interviews with officials and the analysis of documentary evidence.

As a broad generalization it was found that science accommodation had substantially improved in both quality and quantity during the Program. Most schools had sufficient science rooms at its conclusion. However, some deficiencies remained. One school in 10 was seriously deficient in science rooms and a further one in 10 was moderately deficient. Furthermore, some science rooms were not fully equipped for students to do experiments. On a number of indicators, government schools were found to be less well provided than non-government schools.

Most schools surveyed considered their supply of expendable and minor apparatus to be satisfactory. The supply of apparatus was not often regarded as an impediment to practical work even though one fifth of the schools reported deficiencies in major apparatus. A more frequently mentioned problem was the lack of laboratory assistants. This seemed an especially severe problem in Catholic schools.

From the study which was made of Year 9 science teaching it seemed that better facilities were associated with an enriched learning environment and more active forms of science learning. An enriched learning environment was one in which there was greater involvement in purposeful activity, better organization and more stimulation in the variety of methods and materials used. Good quality rooms were most strongly associated with better organization, and more abundant apparatus was associated most strongly with a more stimulating environment. Being frequently in science rooms, using rooms of good quality and having sufficient apparatus were all associated with greater involvement of students in learning activities. Active forms of learning, defined as more experimental work, less textual learning, and greater encouragement to explore were also associated with better science facilities.

Observations made during visits to schools were consistent with the results of the statistical analysis. The standard of science facilities did influence the way in which science was taught. Even though changes were not dramatic, they were observable. Science teachers certainly found it more convenient and efficient to teach actively when they had good facilities. While good facilities were neither a determining nor major factor shaping the science teaching patterns in schools, they were a component which set limits within which choice could be exercised.

As a result of the visits to State Education Departments it was possible to detect a number of concomitant developments in school systems which were influenced by the Facilities Program. These developments included allowing schools more choice in the selection

of apparatus, a general stimulus to laboratory design, and assistance to schools implementing new curricula.

A report of the study has been completed and copies have been sent to the Schools Commission. A summary report is being prepared.

Publications and Papers

Ainley, J G (1977). *The Australian Science Facilities Program. A Study of its Influence on Science Education in Australian Schools.* (ACER: Hawthorn, Victoria.) (Final draft of Report.)

Ainley, J G (1976). 'The Australian Science Facilities Program: A Study of its Impact on Schools'. *Victorian Institute of Educational Research Bulletin.* **36**: 17-39.

Ainley, J G (1977). 'Do Facilities Make a Difference?'. Paper delivered at the Annual Meeting of VIER, Melbourne.

Ainley, J G (1977). 'A Study of the Impact of the Australian Science Facilities Program on Schools'. *Independence*, **2**(1): 27-28.

Ainley, J G (1977). 'The Impact of Science Facilities on Science Learning'. Paper delivered at ASERA Conference, Wagga Wagga.

Social Learning and the Impact of Innovation

Kevin Piper

(This project is funded by the Education Research and Development Committee.)

This study into social learning and the impact of innovation is being carried out in two stages.

The aim of the first part of the study is to investigate current school practices and attitudes in relation to social learning, with special reference to learning for social competence: that is, learning directed towards helping young people to achieve an understanding of their society and to function effectively in it. An interim report will be issued at the end of this first stage.

The second part of the study (1978) will be looking at the impact of the materials developed by the Social Education Materials Project (SEMP), and the changes, if any, brought about in the operative curriculum in social learning as a result of their availability to schools. A full report of the study will be issued at the end of the second stage.

The study is being carried out by means of case studies of selected schools in Victoria and New South Wales representing a variety of curriculum styles. A variety of techniques for gathering data is being employed as appropriate: questionnaires, interviews, attitude measures, observation, content analysis of documents and materials, and informal methods; and it is planned to involve staff and students in the research as much as possible. The study is confined to Years 7-10 (Forms

1-4), focusing particularly on Years 9 and 10, the last years when most students are still at school.

Depending on the outcomes of the case studies, it may be possible to test the generalizability of the findings by extending the study into a third stage, for example, by means of a questionnaire survey or a series of visits to a wider sample of schools. Even if this is not possible, teachers should find the case study descriptions and analyses useful in dealing with their own problems, and be able to detect, in the case studies, situations relevant to their own programs in social learning.

Publications and Papers

Piper, K (1977). 'Evaluation: What Questions Should We Be Asking?' Paper delivered at the SEMP Evaluation Conference, Canberra.

Study of the Objectives and Practices of Oracy in Schools and of the Feasibility of Oracy Testing

Sidney F Bourke, Faye Holzer

(This project is included in the ACER Core Program and is also funded in part by a grant from the ERDC.)

This project commenced at the end of May 1977 and is due for completion by the end of 1977. It is an exploratory study which follows on from work done in 1976 by Dr Diana F Davis and Dr Milton L Clark for the ERDC on curriculum and other statements related to oracy development in schools.

As most communication in everyday life is oral, not written, the development of listening and speaking skills by students may be of even greater importance than the development of the parallel skills of reading and writing. The school has a role to play in the development of oracy skills by students, although clearly it is not the only agency involved in oracy development of young people. It is contended that oracy should be considered with literacy and numeracy to form a triumvirate of the basic skills which all students should possess on leaving school and which form the basis for all further learning.

A statement of listening and speaking objectives has been prepared which provides a framework for considering the ranges of abilities, purposes and contexts involved in at least some of the various listening and speaking roles taken by students. Lists of possible objectives, classified by the ability concerned are included in the statement. It is intended to use the lists of objectives as the basis of interviews with teachers to determine their current practices and the importance they attach to the development of speaking and listening skills by their students. Both primary and secondary teachers

will be interviewed. If possible, teachers who place a particular emphasis on oracy development will be interviewed as well as teachers who do not stress this area.

An interim report will be prepared for the ERDC in September 1977 and a final report in December 1977. Recommendations as to the feasibility of oracy testing in schools will be made in the interim report and, if appropriate, suggestions of assessment procedures and instruments which could be used will be made in the final report.

EDUCATIONAL AND PSYCHOLOGICAL MEASUREMENT

ACER Checklists for School Beginners

Helga A H Rowe, Robert W Davey

(This project is included in the ACER Core Program.)

The *Checklists* provide pre-school teachers and teachers of school beginners with a tool for systematic but informal observation of the children in their care. The *Checklists* yield both an individual profile for each child and a class profile for a number of important developmental and educational domains. It is suggested that this approach has a number of advantages.

1 It facilitates an understanding of the child's strengths and weaknesses to such a degree that a meaningful analysis of specific educational needs becomes possible.
2 It reflects both intra-individual and inter-individual variability and will thus serve as a basis for curriculum planning and for the selection of teaching strategies.
3 The class profile assists the teacher in the planning and grouping for selected activities, and in the estimation of resource requirements.
4 Finally, the domain-referenced approach as utilized in the *Checklists* allows for meaningful feedback to the teacher concerning an individual's or a group's functioning and/or progress over time, as well as feedback to parents and other professionals who may become involved from time to time.

The *Checklist for Parents*, which supplements the information gathered by use of the *Checklist for Teachers* is available in English and in a number of other languages, ie Arabic, Greek, Italian, Maltese, Serbo-Croatian, Spanish and Turkish.

The *Checklists* have been used on a trial basis for two years.

Publications and Papers

Checklists for School Beginners. (ACER: Hawthorn, Victoria.)

ASAT Validation Studies

John P Keeves, Lincoln A Bennett, Bruce McBryde (ERDC Research Fellow)

(This project is included in the ACER Core Program.)

The need to advise the ACT Schools Accrediting Agency on procedures to be employed in the moderation of school assessment scores, using performance on the ASAT Test, has led to a study being carried out at the ACER. Data files for the Year 12 Students of 1975 were obtained from the ACT Schools Authority. These files contained information on HSC performance, ASAT scores and assessed marks of expected performance on the HSC.

The following procedures of rescaling have been examined, by correlating rescaled school assessment with HSC marks (a) linear rescaling, (b) equipercentile rescaling using a fitted curve, (c) equipercentile scaling using interpolation procedures, but without curve fitting. Not only have between student correlations been calculated for each subject but it has been necessary to examine between school and between student within school correlations. The findings of the study to date indicate that linear rescaling is the simplest, most straightforward to apply and probably the most effective rescaling procedure. The work undertaken also revealed that certain problems were being encountered when the groups involved in rescaling were small.

Australian Item Bank Program

Peter Thomson (Director)
Peter Allanson (until December 1976), Virginia Carter, John Cassidy (from August 1977), Murray Cropley, John Hodgkinson (from August 1977), Donna Lannan (from April 1977), Conrad Lannan (from July 1977), Mary Lee (until June 1977), Frank Maas, George Morgan, Beverley Randall (from February 1977), Hardy Stow (from February 1977).

(This project is included in the ACER Core Program.)
(Mr Allanson was seconded from the Western Australian Department of Education, Mr Cropley, Mr Maas and Miss Lee from the Victorian Department of Education, Mr Cassidy and Mr Hodgkinson from the Queensland Department of Education, Miss Randall from the Northern Territory Department of Education, and Mr Stow from the South Australian Department of Education.)

Begun in 1972, the Australian Item Bank Program is now drawing to its conclusion. For the year under consideration the three teams, under their leaders Mr G Morgan (Mathematics), Mr M Cropley (Science) and Mr F Maas (Social Science), have been working towards the publication of the item collections. Publication of the booklets of items and accompanying teacher handbooks is scheduled for May 1978.

It is hoped that the banks will prove to be a valuable aid to the classroom teachers of secondary school Mathematics, Science and Social Science. Although the major thrust of the development work has been directed towards Year 10, it has become obvious that a large number of the questions will also be appropriate for Years 8 to 12.

This project has been a significant one, involving as it has all States and Territories in a unique co-operative venture. Over the last five years the States and Territories have seconded 19 staff members to the ACER for item bank work for periods usually ranging from three to 12 months. During the same period, the ACER has provided between one and three members of professional staff as well as all the typing and other support services necessary to run the project.

When the items become available next year they will provide a valuable resource that can be used to improve existing school-based assessment techniques.

Tests, Publications and Papers

Item Bank Mathematics. (ACER: Hawthorn, Victoria.) 1976.
Item Bank Science. (ACER: Hawthorn, Victoria.) 1976.
Item Bank Social Science. (ACER: Hawthorn, Victoria.) 1977.

Cropley, M and Foyster, J (1976). *Item Bank Manual: Handbook for Sample Collection of Mathematics and Science Items.* (ACER: Hawthorn, Victoria.)

Career Planning and Guidance Program

Linda K Schrom, Helga A H Rowe

(This project is included in the ACER Core Program.)

It has been argued that students in their final years of schooling need to develop skills in identifying an appropriate career or occupation and in obtaining initial work experiences. To assist them in their development of such skills a program of self-evaluation with appropriate assessment instruments is envisaged. The important areas associated with such skills are those of personal appraisal, career awareness and possibilities, career choices, seeking employment, occupational and career satisfaction, and applied economics. The aim of this project is to provide assessment devices which may assist teachers, guidance staff and school administrators to evaluate a student's knowledge, skill and understanding in these areas. The first goal is to produce an individual oriented guide for students at Year 10 level.

Junior Secondary Mathematics Topic Tests

Gregory B Cornish, Donna Lannan (from April, 1977), Robin Wines (until January 1977)

(This project is included in the ACER Core Program.)

Tests developed in this project will be published as the ACER Mathematics Profile Series. There will be 20 tests covering five areas for use at the junior secondary level. The first test to be developed, the Operations Test, together with a teachers' handbook, will be made available to schools early in 1978.

The next set in the series, the Space Tests covering the area of spatial development, is scheduled for publication by the middle of 1978.

Trial tests of items in two other areas, measurement and numbers, will be completed by the end of 1977. It is planned to continue development in the remaining area, relations, during 1978.

Tests, Publications and Papers

ACER Mathematics Profile Series Operations Test. (ACER: Hawthorn, Victoria.) 1977.

Migrant Education Testing Project

William T Renehan, Graeme P Withers (Co-directors), Rosawitha Dabke, Janice Emmins, Elizabeth Hoare, Olivia Lademann

(This project was funded by the Commonwealth Department of Education.)

The project closed on schedule at the end of 1976, with the production for publication of 84 tests, two cassette tapes, a teachers' handbook and a manual for administration of the tests.

Publication and distribution to schools by the Commonwealth Department of Education took place during June 1977, following a round of in-service training sessions for consultants and teachers in each State and Territory.

Tests, Publications and Papers

Tests of English for Migrant Students.

A kit of tests, comprising

20 tests of sounds, symbols, stress and intonation,
18 tests of grammatical production and comprehension,
16 tests of vocabulary and idiom,
20 tests of integrated comprehension and production,
10 tests of communicative, competence, comprehension and production,
84 answer keys,

Handbook for Teachers (interpretation),
Manual for Administration,
Two cassette tapes, comprising scripts of 15 tests.

Withers, G P (1977). 'The Assessment of Migrant Children'. Paper delivered to the Conference for Guidance and Special Education, Sydney.

Music Evaluation Project

Jennifer L Bryce (until January 1977), Max Cooke*

(This project was funded by the Education Research and Development Committee.)

This project was completed in January with the publication of the *Music Evaluation Kit*. The kit consists of seven tests measuring skills and knowledge in the areas of:
Pitch Discrimination,
Recognition of Differences in Duration,
Volume Discrimination,
Recognition of Differences in Tone Colour,
Recognition of Differences in Rhythmic and Melodic Patterns,
Identification of Instruments and Instrumental Groups,
Music Reading.

The tests are multiple-choice and each has sufficient items to give a reliable score, necessitating a testing time of 15 to 20 minutes. All stimulus material and questions are recorded on tape, and diagrams are used wherever possible to cut down on verbal material.

Tests, Publications and Papers

Bryce, J and Cooke, M (1977). *Music Evaluation Kit and Manual.* (ACER: Hawthorn, Victoria.)
Bryce, J (1977). 'Rationing the Food of Love. Selection of Students for Special Music Education'. Paper delivered to the Conference of Australian Society of Music Education, Canberra.
Bryce, J (1977). 'Criterion-Referenced Music Tests'. In M Cooke (ed) *Musically Gifted Children, Training and Recognition.* pp.21-43. (Faculty of Music, University of Melbourne: Melbourne.)

Reading Appraisal Guide

Barbara Johnson, Noel McBean, William T Renehan

(This project was initially funded from ACER's income from sales, and is now included in the ACER Core Program.)

The project has been redesigned but initially involved a review of

* Co-investigator, Faculty of Music, University of Melbourne.

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diagnostic tests, including tests in the ACER's catalogue, as well as other diagnostic tests currently in popular use. A second stage involves the production of a theoretical paper on diagnosis of reading difficulties, including an examination of the reading process. Finally, a number of case studies of individual children will be undertaken to determine attitudes to reading by readers of different ability levels. These children will also be given a standardized diagnostic test and a Reading Miscue Inventory.

The *Reading Appraisal Guide*, for use in late primary and early secondary school, will direct teachers to look for both motivational and attitudinal reasons underlying a child's reading ability, as well as making constructive suggestions for overcoming diagnosed weaknesses in reading.

Screening and Diagnostic Tests for Early Primary School

Patricia M Larsen, Helga A H Rowe

(This project is included in the ACER Core Program.)

To complete the series of ACER Early Screening Tests language tests are being developed. These criterion-referenced instruments are designed to alert teachers to important aspects of language for curriculum planning and the wide range in the development of the language skills of school beginners.

Tests will include:

(a) a *Word Knowledge Test* which will be a test of receptive vocabulary measured by the selection of the stimulus word from a group of four pictures,

(b) an *Oral Comprehension Test* including sections on pronouns, prepositions, verbs, negation and a small test of general listening skills,

(c) a *Copying Skills Test*.

Preliminary trials are being carried out on the *Copying Skills Test* and it is hoped to trial the language series early in 1978. A handbook for teachers covering the complete set of *Early Screening Tests* will be prepared. This handbook will suggest ideas and procedures to help develop appropriate programs for children according to their performance on the tests.

Publications and Papers

Larsen, P M (1977). 'The Assessment of Young Children on School Entrance'. Paper delivered to ARA Conference, Melbourne.

Studies of Criterion-Referenced Measurement

George Morgan, Sidney F Bourke

(This project is included in the ACER Core Program.)

Criterion-referenced measurement and testing are concepts which have gained increasing importance in the minds of many educators in recent years. With the advent of objectives-based educational programs catering for individual differences in learning, it has become clear that methodologies based on criterion-referenced measurements are preferable to those based on traditional norm-referenced measurements, particularly so when assessing student competencies on well-defined behavioural tasks. Although the basic groundwork has been prepared and is now being applied to problems of assessing competencies and assigning students to mastery states, many unsolved problems still remain and need much more attention.

Part of the work of this project is to keep abreast of important new developments in the field. Moreover, the project is examining by way of research some fundamental practical issues, such as the determination of cutting scores in terms of Bayesian-decision theoretic procedures for criterion-referenced tests, when errors of measurement due to guessing and carelessness are present. The findings of this research have been successfully applied to the determination of mastery levels in the Australian Study of School Performance — Literacy and Numeracy in Australian Schools. Current and future research in this project is aimed at providing a more complete treatment of some of the issues raised in this and other related studies.

Publications and Papers

Morgan, G. 'The Determination of Cutting Scores for Criterion-Referenced Tests' (Appendix 1). In S F Bourke and J P Keeves (eds) *The Mastery of Literacy and Numeracy. Australian Studies in School Performance. Volume III.* (Australian Government Publishing Service: Canberra.) (in press).

Studies of Tests of General Ability

Helga A H Rowe

(This project is included in the ACER Core Program.)

Combining psychometric, observational and experimental procedures, a study is being made of certain essential processes (phases, stages, strategies, etc.) involved in critical thinking and problem-solving. In a pilot study it has been found that a number of such processes occur consistently across individuals and in a variety of tasks. An attempt will be made to state functional relationships between task para-

meters and process variables as a first step towards the design of some generalizable explanation of relevant components of the problem-solving process. Sources of individual differences will be investigated to identify which processes or operations contribute to individual differences.

The long range aim of the project is to produce measures of general ability which are designed to describe individuals in terms of their specific competencies rather than in terms of their general ability relative to the ability of other people. The current aim of the project is to provide a theoretical background for such measures.

Another outcome expected of this project is that it may lead to practical application in terms of suggestions of how the efficiency of critical thinking and problem-solving in individuals could be enhanced.

Publications and Papers

Rowe, H A H (1977). '"Borderline" Versus "Mentally Deficient"'. *Australian Journal of Mental Retardation*, **4** (5): 11-14.

Rowe, H A H (1976). 'The Communication of Ability Test Data'. Paper delivered at Conference of NSW Division of Guidance and Special Education, University of NSW.

Studies of the Wechsler Intelligence Scale for Children—Revised (WISC-R)

Helga A H Rowe, Linda K Schrom, Robert W Davey

(This project is included in the ACER Core Program.)

Two studies investigating the comparability of WISC-R and WISC have been carried out. The first of these studies was conducted with a well-balanced sample of 128 Australian adolescents drawn from a representative sample of 15 Melbourne metropolitan secondary schools. The results indicate that WISC-R and WISC measure in the same direction, that their structure is similar but that the tests are not equivalent. WISC-R was found to predict 77 per cent of WISC and vice versa. Twenty-three per cent of variance of either test thus failed to be explained by the other. WISC-R Verbal, Performance and Full Scale IQ's tended to be lower than WISC IQ's. This finding supports overseas research results recently reported in the literature.

In the second study the performance on WISC-R and WISC of 44 educable mentally retarded pupils from two Special Schools for the Intellectually Handicapped in Melbourne was investigated. The results again supported previous findings. Special recommendations concerning the use of WISC-R with EMR children and adolescents were made.

Publications and Papers

Rowe, H A H (1976). *The Comparability of WISC and WISC-R. Occasional Paper No. 10.* (ACER: Hawthorn, Victoria.)

Rowe, H A H (1976). 'WISC-R and WISC, A Comparison by Way of Canonical Correlation Analysis'. Paper presented at the APS Conference, Armidale, NSW.

Australian Scholastic Aptitude Test (ASAT)

Peter P Thomson, Lex Lees, George Morgan

(This program is funded from income from users.)

The ASAT Series F was prepared for administration to the Year 12 student populations in the Australian Capital Territory, Northern Territory, Queensland and Western Australia, following the recommendations of the first national conference on ASAT, held at the ACER in May 1976, where it was decided that, from 1977 onwards, only one version of the test would be produced. It was also decided that this new version should take three hours to administer and should no longer include shorter mathematical and verbal reasoning questions. The test format, in terms of unit and item structure, should not be changed and the content breakdown among subject areas should be identical to that of the 1975 and 1976 tests.

In May 1977, the second national conference on ASAT was held at the ACER. The conference examined the present and possible future structures of the test, discussed recent research on ASAT, and suggested areas of future research. A draft of the ACER Examiners' Report on ASAT Series E was tabled at the conference, and the final report was subsequently distributed. At the suggestion of the participants, a Students' Information Bulletin has been prepared, and is now being distributed to the user States and Territories.

Tests and Publications

ASAT Series F. (ACER: Hawthorn, Victoria.) 1977.

Report on the 1976 Australian Scholastic Aptitude Test (ASAT Series E). (ACER: Hawthorn, Victoria.) 1977 (mimeo).

Students' Information Bulletin. Australian Scholastic Aptitude Test. (ACER: Hawthorn, Victoria.) 1977.

Thomson, P P (1976). 'Future Developments in Testing Programs'. In J F Morrow (ed) *Moderation at the Crossroads.* pp. 31-34. (Queensland Teachers Union: Brisbane.)

ASAT Special Testing Program

Peter P Thomson, Barbara Crisp (Technical Assistant)

(This program is funded from income from users.)

Since 1973, the ACER has offered a special service to tertiary institutions wishing to select candidates who do not fit into normal entry categories. Special forms of the *Australian Scholastic Aptitude Test* are used for this purpose and during the last five years an increasing number of institutions have sought our help.

Over the past year we have tested more than 2500 candidates seeking places at some 20 institutions.

Co-operative Scholarship Testing Program

Evelyn Watson, Lex Lees, Peter P Thomson, Graeme P Withers, Barbara Crisp (Technical Assistant)

(This program is funded from income from users.)

This program is conducted each year on behalf of a number of independent schools in all Australian states. General regulation of the program resides in an *ad hoc* policy committee of principals of independent schools and ACER staff.

The program provides for examination at two levels: for entrance to secondary school and for continuation beyond Year 8. The areas examined at Level 1 are Written Expression, Humanities, and Mathematics; at Level 2 Science is also examined.

Administration of the program, including the development of tests and their marking, is carried out by the ACER. Test scores, standardized by level and State, are returned to schools which then use the results as a basis for offering scholarships.

In 1977, the examination took place on 23 July. More than 9000 candidates registered for scholarships offered by 106 schools. The candidates sat either at the participating schools or at one of 46 rural and 22 overseas centres set up by the ACER.

The current series of tests used in the program, first introduced in 1972, are due to be replaced in 1979 by new tests. Development of these new tests began in January 1977.

The developmental program is expected to produce enough items for another four years of tests.

Australian Law Schools' Entrance Test

Graeme P Withers

(This project is funded by the Law Schools of the Universities of Melbourne and NSW, Monash University and the Australian National University.)

Following a commission from the University of Melbourne to look into the problems of entrance selection of candidates for law schools, a working party representing four universities was set up under the chairmanship of Mr Justice Woodward.

A specification for an experimental test, to be called the *Australian Law Schools' Entrance Test*, has been drawn up, and an initial development of items for trial testing in September has taken place. The test will cover vocabulary, reading comprehension and interpretation, logical reasoning, and comprehension of numerical, graphical and tabular material. A first form of the test is expected to be ready early in 1978.

Paragraph Reading Test

Barbara Johnson, Lex Lees

(This project is funded from ACER's income from sales.)

Following trial testing and a subsequent review of the test items, the test and interim manual were published and made available for use in schools from January 1977.

Plans to collect further statistical data in 1978 in conjunction with the Queensland Department of Education are in preparation. Following collection of the additional data, the present interim manual will be revised.

Test and Publication

Paragraph Reading Test and Manual (Interim). (ACER: Hawthorn, Victoria.) 1977.

Physics Unit Tests

Graeme Wilmot, Peter P Thomson

(This project was included in the ACER Core Program, and is now funded from ACER's income from sales.)

Progress is continuing steadily with the production of the Physics Unit Tests. These tests are designed to facilitate the diagnostic evaluation of students' progress in secondary school Physics for Years 11 and 12 throughout Australia.

Fourteen tests are now ready for publication and items have been written for the remainder of the tests. These latter items are being reviewed and prepared for trial testing. It is planned that the complete set of about 23 tests will be published early in 1978.

ACER Mathematics Tests (AM Series)

Robert W Davey, Peter Jeffery

(This project is funded by ACER's income from sales.)

The publication of the manual of this series has been delayed until the norming of the tests is completed. A program to norm the six un-normed tests (AM 8-12 and 14) commenced in March. The tests are to be normed in all States at the Years 4, 5, 6 and 7 levels. State, Catholic and independent schools are included in the sample. It is anticipated that the work on the project will be finalized in the first half of 1978 and the manual published as soon as possible.

Revision of Adult and Higher Level Group Ability Tests

Diana M Bradshaw, Robert W Davey (from March 1977), Caroline Sigmont (to February 1977)

(This project is funded by ACER's income from sales.)

Progress to date includes the trial of test items drawn from a pool of items provided by tests constructed for Public Service selection. Each of these tests was used only once for selection purposes. A great deal of modification of the test items was necessary because many items had become dated with the passing of time. Following item analysis, final forms have been prepared for two advanced level tests, one of which provides separate linguistic and quantitative sections and a higher level test also providing separate sections.

The current phase is concerned with the revision and retrial of items in the existing tests at these levels. It is expected that all tests will be standardized early in 1978 and the completion of this project is planned for the end of May 1978.

LIBRARY

Margaret A Findlay (Librarian), Marie Pernat, Lula Psiliakos, Elspeth Miller

The ACER Library is one of the most comprehensive collections in the field of education in Australia and, since the formation of the library in the early 1930's, has sought to assemble and maintain a collection which would provide easy access to current developments in education and would also provide an historical overview of education, especially in Australia. Consequently, it is the library's policy to collect all new material published on education in Australia. In addition, the library acquires overseas monographs, reports and serials which reflect current trends in educational policy and practice and

which are of particular interest to Australian educators and researchers. Extensive use is made of the collection by outside researchers, either by personal visits to the library or through the libraries of other institutions. In fact, requests on inter-library loan from other libraries totalled 1770 during the period under review.

Computerized information retrieval services have been used to supplement the detailed reference and information work performed by the library for the research staff of the ACER. Current awareness and retrospective searches have been undertaken on data bases both in Australia and overseas. It is expected that extensive use will, in the future, be made through terminals linked to the newly established Australian Information Network.

The Australian Education Index continues to be prepared and edited in the library. Coverage has been extended to include reviews of curriculum materials which appear in Australian literature. Details giving ISBNs and prices are also included for many monographs to aid librarians who use the Australian Education Index for selection purposes.

Publication and Papers

Findlay, M A (ed) (1976-77). *Australian Education Index*. Vol. 19 (3 and 4) and Annual Cumulation, Vol. 20 (1 and 2). (ACER: Hawthorn, Victoria.)

ADVISORY SERVICES

(The cost of Advisory Services is met entirely from ACER's income from sales.)

Education Advisory Services

Peter Jeffery, Noel McBean

There has been a continuing effort by Advisory Services staff to extend knowledge about the ACER. A considerable increase in the distribution of the *ACER Newsletter* has been achieved through bulk lots being forwarded on by Regional Education Offices, Teacher Centres, Colleges of Advanced Education, the State Institutes of Educational Research and similar co-operating bodies. The series of 'research news' mailings which we started last year has been continued.

Another new version of *Advisory Services Bulletin No. 1* 'General Information about ACER' was designed and called *Ways in which ACER meets educational needs.*

About 13 000 brochures were distributed to teachers at conferences and, through co-operating staff of education faculties, to graduating students. The *Educational Catalogue* was distributed together with the

general information leaflet rather than preparing the *Graded List* and *Publications Available*. The brief *ACER Educational Catalogue* was widely distributed for use in conjunction with test libraries, specimen sets of tests and the *ACER Annotated Catalogue of Educational Tests and Materials*, which contains very detailed descriptions of items. The *Annotated Catalogue* has been readily accepted and its 'updating' concept is very popular. The educational community is now becoming familiar with the revised catalogue system.

During the year both Advisory Officers have continued to be involved with test maintenance. A large number of manuals and other items have been revised before reprinting.

A considerable amount of time and energy has gone into studying overseas tests and materials prior to their inclusion in ACER stocks, and into the writing of advisory leaflets or annotations to accompany the materials when distributed.

The Senior Advisory Officer as Chairman of the Advertising Committee prepares copy for many information leaflets which are distributed with invoice orders, monthly statement mail or other means. The series of *New from ACER* and *New from NFER* leaflets containing annotated descriptions of books is frequently mailed to libraries in all educational institutions including resource centres, teachers centres, and the like. All annotations are prepared by advisory staff so that our 'advertising' is descriptive and advisory rather than exhortative.

The materials evaluation activities of the section continued to be predominantly concerned with materials for which we are the publisher's agent. Most of the materials are evaluated for the ACER by users, and we disseminate the results to those who, if the evaluation indicates the material would be useful, later purchase the material. Information contained in 'review reports' and made available with 'review sets' from Advisory Services Library (test library) is valuable to teachers considering materials for purchase and use.

Requests for loans of educational items from our test library steadied over the last year. It is believed that this reflects to a degree the success of our efforts in promoting the establishment of test libraries, especially by purchase of *ACER Mini-Libraries of Tests*. Most loans from the the ACER test Library now arise from specialist requests by consultants and correspondence to Advisory Services. Support of sales activities by loans of kits not available 'on approval' also form a major part of educational items loaned from test library.

Both Advisory Officers have made themselves available, where appropriate, to lecture to in-service education groups and to work with education groups or committees outside the ACER in the belief that such involvement enhances their capacity to report accurately trends and needs in education in Australia to the ACER management.

Psychological Advisory Services

Diana M Bradshaw, Josephine C Jenkinson, Robyn H Hegarty (from 1 August 1977)

The provision of information and advice to test users accounts for a large proportion of staff time. During the year there has been a rise in the number of psychologists seeking advice on batteries of tests for assessment and selection purposes and for use in research. Requests have come from a variety of sources including tertiary institutions, Public Service Boards, the Road Safety and Traffic Authority, Railways and Police Academy of Victoria.

There is currently a great demand for tests for use in apprentice selection. We have not been entirely successful in meeting this demand because of the absence of suitable tests of Australian construction and standardization.

The number of people whose qualifications have been processed has been approximately the same as last year. A request from the ACER to the Australian Psychological Society for assistance in assessing the acceptability of courses of training in the use of specific tests has been responded to by the establishment of an *ad hoc* committee which will probably be replaced by a standing committee of the Society.

Demands on test library have continued to increase. During the year, loans of psychological tests were in excess of 1400.

A display of test materials was arranged for the annual conference of the Australian Psychological Society and a number of smaller more specific collections of tests was provided for meetings in Melbourne.

Groups of final year students from State Colleges and University Counselling courses visited the ACER to become familiar with resources of the ACER and to discuss testing issues. The staff of several branches of Counselling, Guidance and Clinical Services and Special Education Units visited the ACER to discuss their test needs.

One issue of the *Bulletin for Psychologists* was prepared and distributed. It was not possible to produce a second issue, but it is hoped to do so before the end of the year.

During the year 74 stock items were checked for accuracy and updating prior to reprinting. However, staff have been unable to spend as much time as would be desirable on the accumulation of evaluative information on psychological tests.

A matter of some concern is the relative lack of balance in the service provided. A great many more psychologists in Victoria use ACER services than is possible for those in other States. This is

largely a matter of location. It would seem desirable to give some consideration to ways in which ACER services might become better known in other States and to ways of compensating for the disadvantage.

The Collection of Test Data to Assist Test Users

Josephine C Jenkinson

This project was begun early in 1977 with the object of collecting data from test users on some of the more frequently used ACER and overseas tests. Eventually results on ACER tests will be used to update the norms in existing tests. Results from overseas tests will be published initially in test information bulletins for distribution to test users, and ultimately, if sufficient data are collected, in the form of Australian supplements to test manuals. Arrangements for processing data have been made with the Department of Applied Psychology, Caulfield Institute of Technology, who will use the data as a basis for student exercises in computer processing.

An initial list of seven ACER tests and five overseas tests was drawn up, largely on the basis of extent of test usage, inadequacy of present norms, and the probability of data being readily available. Of high priority in this project is the collection of data on the redrawn edition of the *ACER Mechanical Reasoning Test* before it is released for general sale. So far arrangements have been made to collect results from approximately 10 000 candidates for apprenticeship selection in 1977. Alternative arrangements may have to be made for processing these results, which may be beyond the scope of the programs offered by the Caulfield Institute of Technology.

Test users have been chiefly located and contacted through requests for assistance received by advisory staff, or from referrals of orders to advisory staff for clarification. In addition a general appeal for data was made in *Bulletin for Psychologists No. 22*.

Overall response so far has been disappointingly small. One of the greatest difficulties seems to be to convince test users that any effort they expend in putting data together and forwarding it to the ACER will be rewarded by the availability of more adequate and up-to-date information on the tests they are using.

Data received so far include results of a group of 430 business-economics graduates on the California Psychological Inventory. These results are at present being processed and it is hoped will be ready for publication in a test information bulletin before the end of 1977.

PUBLISHING

Australian Journal of Education

Professor R L Debus of the University of Sydney and his Assistant Editors from the States, continue to edit the *Australian Journal of Education* for the Council on a voluntary basis. Although Professor W F Connell, who was editor of the *Journal* at its inception, has retired from the University of Sydney, he is continuing to assist the preparation of the *Journal* as Consulting Editor.

The *Journal* has continued to maintain high standards, but the number of subscribers has fallen with a total number of subscribers now standing at 2150 of whom 650 are members of the State Institutes.

With rising costs and no increase in subscription rate for three years, the *Journal* now runs at a loss and it will be necessary to raise the subscription rate in the immediate future.

Australian Education Review

The problems associated with the preparation and publication of the *Australian Education Review* have been referred to previously. Standing orders for the numbers of the *Review* are 550 and actual sales of each issue are approximately 750 copies.

Publishing Division Activities

Don Maguire, Marcel Leman (from February 1977), Jennifer Lord (from June 1977)

This year there was more emphasis on our book publishing activities than in previous years. For example, completely revised editions of two of our best sellers were published, viz, *Reading Aids Through the Grades*, second revised edition, by Anne Marie Mueser, adapted for use in Australia by N McBean; and *Books for the Retarded Reader*, sixth edition, by J A Richardson, F T Caust and J A Hart.

Considerable effort has been put into the seeking of competitive quotations for all stages of printing, resulting in a large measure of success in containing our printing costs.

Towards the end of the year, the total publications in production and manuscripts in hand has noticeably increased. This should result in increased output from the Division, particularly in the area of new test materials, in the ensuing 12 months. Additional editorial assistance has been supplied to assist with this work.

Books, Reports, Papers and Periodicals Published

(a) books and reports

Australian Reports on Education by Cecily Brown.
Listening in the Primary School by T S Duff and M L Clark (ACER Research Series No. 99).
Australian Item Bank Program.
A Sample Collection of Multiple-Choice Items from the Mathematics Item Bank compiled by John Foyster.
A Sample Collection of Multiple-Choice Items from the Science Item Bank.
Handbook for Sample Collection of Mathematics and Science Items compiled by Murray Cropley and John Foyster.
Books for the Retarded Reader (sixth edition) by J A Richardson, F T Caust and J A Hart.
Construction and Analysis of Classroom Tests by J Izard.
Reading Aids Through the Grades (second revised edition) by Anne Marie Mueser. Adapted for use in Australia by Noel McBean.
Essential Learning About Society main report and item supplement by Kevin Piper.
Youth Needs and Public Policies by Alan F Wright and Freya Headlam. Printing and binding completed on behalf of Department of Youth, Sport and Recreation, Victoria, who were the publishers of the report.
IEA (Australia) Reports 1976

1976:1 *Transition from School to Post Secondary Education in Australia* by R Lewis.
1976:2 *Curricular Factors Influencing School Learning: Time and Opportunity to Learn* by J P Keeves.
1976:3 *Transition from Schooling at Year 12 to Work in Australia* by R Lewis.

(b) periodicals

Australian Education Index compiled by Margaret A Findlay.

Vol. 19 No. 3 September 1976.
Vol. 19 No. 4 November 1976.
Vol. 19 Cumulation.
Vol. 20 No. 1 May 1977.
Vol. 20 No. 2 July 1977.

Australian Education Review

No. 7 *Australia and International Education: Some Critical Issues* by J Cleverley and P Jones.
No. 8 *The Liberal Party: Politics and Education Policy* by Derrick Tomlinson.

ACER Newsletter
No. 28 November 1976.
No. 29 July 1977.
Bulletin for Psychologists compiled by D M Bradshaw.
No. 22 June 1977.

(c) occasional papers

No. 9 *Searching for Uncertainty* and Appendices by Kenneth N Ross.
No. 10 *The Comparability of WISC and WISC-R* by Helga A H Rowe.

(d) advisory services publications

What is ACER? Brochure.
ACER Annotated Catalogue of Educational Tests and Materials.
Educational Catalogue.
Psychological Catalogue and price list and supplement.

(e) advertising materials

Advertising Wall Chart.
Understanding in Science brochure.

Tests and Kits Published

(a) testing services

Co-operative Scholarship Testing Program Candidates Registration Form, Candidates Information Bulletin, List of Centres.
Tests: Written Expression — Levels 1 and 2; Humanities — Levels 1 and 2; Mathematics — Level 1; Mathematics and Science — Level 2.
Australian Scholastic Aptitude Test Series F, Books I and II.
Western Australian Version, Students Information Bulletin.
(1) ACT—77-Item Booklet, Answer Sheet, Score Key.
(2) Queensland—editing only.
NSW Primary Evaluation Program Camera-ready copy of new material was forwarded to NSW Department of Education who organized their own printing and distribution.
Mathematics M Series.
Reading Test Teachers Handbook, Test Forms X and Y—Parts A and B, score keys and answer sheet.
Test E1 Handbook including dictation test.
Test S3 Handbook.
Test L Handbook and score key (Y).

(b) diagnostic/achievement tests/teaching aids

ACER Mathematics Profile Series Test Booklet for the Operations

Test. Teachers Handbook and Answer Sheet for the Operations Test are in production. The score key for this test will follow.
ACER Number Cards Republished in a more economical format; Number cards and manual.
ACER Paragraph Reading Test Test, Score Key, Answer Sheet and Teachers Handbook.
ACER and University of Melbourne Music Evaluation Kit Set of four cassette tapes, seven tests, Teachers Handbook and Answer Booklet.
ACER Biology Diagnostic and Achievement Tests (Year 12/Form VI). Explanatory Aids; AV1, AU1, AW1, AX1, AX2. Achievement Test (revised) AX1.

Tests Updated

(a) *ACER Mechanical Reasoning Test*
Test completely revised. Copies of artwork forwarded to NFER, Dow Chemical Co., Japan, and Arabia, in relation to pending licence agreements.

(b) *Ravens Advanced Progressive Matrices*
Manual and answer sheets completed revised.

(c) *ACER Silent-Reading Test C* (revised)

(d) *ACER Tests of Learning Ability* (revised)
Manual for TOLA 4 and TOLA 6.

Reprints

There were 255 separate reprints during the year including *Study Type of Reading Exercises*, Secondary level, by Ruth Strang; *Kindergarten Behavioural Index*, Manual, by Enid Banks; *Youth Needs and Public Policies* by Alan F Wright and Freya Headlam (for the Department of Youth, Sport and Recreation, Victoria); *ACER Annotated Catalogue of Educational Tests and Materials; Franck Drawing Completion Test*, Manual.

Publications in Production

At the end of August 1977, there were in production one book, two periodicals, one Occasional Paper, eight sets of test materials and one kit.

(a) books

Enquiry Learning in Social Studies by G J Whitehead. (ACER Research Series No. 101.)

(b) periodicals

Australian Education Index Vol. 20, No. 3, September 1977.
Australian Education Review No. 9.
Rights in education: the Australian Conundrum by I K F Birch.

(c) occasional paper

No. 11 *Aspiration and Attainment: the measure of professional self-perception in student teachers* by G R Elsworth and F Coulter.

(d) tests

ACER AM Mathematics Handbook—Interim Handbook.
ACER Mathematics Profile Series; Teachers Handbook and Answer Sheet for Operations Test; Space Tests; Measurement Tests.
ACER Physics Tests. 21 tests.
Australian Item Bank 1977 Mathematics, Science, Social Science.
Mini Item Bank Social Science.
Main Item Bank Mathematics, Science, Social Science.
Diagnostic Test in Algebra and Geometry (revised) by J Henshaw. Manual, Topic Tests, List of Answers.
Examination in Mathematics for Nurses. Candidates Bulletin and two tests.
ACER Checklists for School Readiness. Checklist for Parents, Checklist for Teachers, Class Record Form and Manual.

(e) kits and materials

QUALT—Test of Aphasia and Language by Professor J Tyrer and Associates.

DISTRIBUTION SERVICES

Eric McIlroy, Alan W Wilkins

Trading activity continued at a high level throughout the year and, excluding subscriptions to journals, the gross sales income from the sale of tests, books and materials amounted to $1 240 000. This is the highest income recorded in any single year, exceeding that for 1975-76 by approximately 16 per cent. There has been a growth of 100 per cent in sales income in the four year period since 1972-73 when $606 000 was received.

The net increase in the current year over 1975-76 is a result of some major changes in the sales pattern. In broad terms the aggregate sales of tests and associated components of $880 000 provided 71 per cent of the total sales income. Test income increased by $162 000 or approximately 23 per cent continuing the trend of the previous

year when the increase was 28 per cent. By contrast, income from the sale of kits of educational materials of $221 000 representing 18 per cent of the total, was $35 000 below the 1975-76 figure following a reduction of $53 000 from the previous year. Book sales and income from the indent or printing of items not catalogued or normally carried in stock were $65 000 and $74 000 representing 5 per cent and 6 per cent of total sales respectively.

In aggregate the income from the sale of ACER publications was $349 000; $138 000 was received from items printed under licence from the original publisher and $753 000 from non-ACER publications, the majority of which were imported direct from overseas.

In round figures 22 000 orders were received and processed during the year. On a State basis sales were widely distributed throughout Australia in accordance with the following breakdown figures: New South Wales ($412 000); Victoria ($350 000); Western Australia ($139 000); Queensland ($129 000); South Australia ($94 000); Australian Capital Territory and Northern Territory ($52 000) and Tasmania ($45 000). Sales outside Australia were limited to $19 000. Calculated on the basis of school population, the expenditure by States results in the following rank order: Australian Capital Territory and Northern Territory (1), Western Australia (2), Tasmania (3), Victoria (4), New South Wales (5), South Australia (6) and Queensland (7). Excluding ACT, the range of State figures is less than 2:1 and represents a fairly uniform distribution pattern. On an institutional basis sales to Education Departments of $386 000, and $159 000 to other State Departments amounted to nearly half of the total, with direct supply to schools of $385 000 made up of $215 000 to government primary schools, $67 000 to government secondary schools and $103 000 to non-government schools. The combined total of university and teacher education centres purchases amounted to $183 000. There is a very wide variation in the ratio of departmental to direct school purchasing between the various States.

To provide a comprehensive service we now catalogue and hold stocks of 276 basic titles of tests and materials amounting to 1180 separate components. There were 11 items with sales exceeding $20 000, 18 items with income between $10 000-$20 000. These 29 items with income in excess of $10 000 comprising approximately 10 per cent of the stock range provided some 55 per cent of the total sales. A further 40 per cent of the total was produced by the 157 items with income between $1000-10 000 but 90 items with sales below $1000 contributed only $40 000.

To illustrate the range of stock and source of supply, the 20 most profitable items comprise five kits of educational material, five psychological tests and 10 educational tests. Seven of the above items are ACER publications, seven are imported, with four part-printed and one completely printed by the ACER under licence. The

ACER Mini-Test Library is a composite collection of all tests in the Educational Catalogue. In addition to the Mini-Test Library the items referred to above are the *ACER Test of Learning Ability (TOLA 6)*, *ACER Primary Reading Survey Tests (Form R)*, *ACER Mathematics Tests (AM Series)*, *ACER Biology Tests Forms 5 and 6*, *ACER Intermediate Test D*, *Wechsler Intelligence Scale for Children (WISC-R)*, *Revised Stanford Binet Intelligence Scale*, *Standard Progressive Matrices*, *Progressive Achievement Test (Form A)*, *Illinois Test of Psycholinguistic Abilities*, *Neale Analysis of Reading Difficulty*, *Peabody Picture Vocabulary Test*, *Wechsler Adult Intelligence Scale*, the *Western Australia Reading Development Scheme* and the four levels of the *Peabody Language Development Kits*. The total volume of material distributed during the year comprised some 3 000 000 Tests/Answer Sheets, 125 000 single items of Manuals and Score Keys, plus 1700 kits of materials and 45 000 student record books. Approximately 1800 orders for non-stock materials were processed and supplied.

The major additions to the stock range included the *ACER Class Achievement Test in Mathematics*, the *ACER Paragraph Reading Test* and the *ACER and University of Melbourne Music Evaluation Kit* following publication during the year. Consignment stocks of two new kits published by American Guidance Service Inc., *Towards Affective Development* and *Systematic Training for Effective Parenting* (late in the year) and the *Porch Index of Communicative Ability* (Children's Edition) published by Consulting Psychologists Press, were also introduced together with the creation of the *ACER Mini-Test Library* and *ACER Mini-Test Library (Reading)*. There was a significant level of acceptance of all the above items as well as the *Perceptual Skills Curriculum* materials and *Yardsticks* referred to in last year's report. The combined income arising from the availability of these publications exceeded $70 000.

We now catalogue 230 book titles, most of which are ACER or NFER publications. There was a substantial change in the range of titles in stock due to new publications, with a number of older titles going out of print. The new ACER publications are referred to separately in this report and as a matter of policy the selection of NFER titles was again increased. In addition we added to stock 17 *IOX Measurable Objectives Collections* published by the Instructional Objective Exchange, USA. As in the test area a limited number of titles provide a disproportionate percentage of the total sales with a large number of titles maintained on a service to clients basis only. *Reading Aids through the Grades* (2nd Revised Edition published June 1977), *Listening Aids through the Grades* and *Books for the Retarded Reader* (5th Edition) continued to be the most popular titles. Over 1000 copies of *Children's Development Progress from Birth to Five Years* published by the NFER Publishing Company

Ltd were sold, with approximately 750 copies each of *Participation in Schools* and the two numbers of the *Australian Education Review* published during the year. As stated earlier, income from book sales amounted to $65 000 from a total of approximately 17 500 copies sold. It is also relevant that the complimentary distribution of some 180 copies of each new title as published, involved books to a retail value of $9800, the purpose of this policy being the dissemination of research studies and findings as distinct from promotional copies.

The valuation of stock on hand at 30 June, 1977 represents about four months' sales and, despite the small margin over lead time for replacement, a high degree of *ex stock* availability was maintained during the years.

There are three basic sources of our stock range: items published or printed by ACER in Australia, items imported direct from an overseas publisher and items purchased from an Australian publisher or agent of the overseas publisher. The prices of ACER-published items are based on the Australian cost of production, for imported items prices are based on the landed cost and in the third category a retail price is recommended by the publisher or agent. A revision of the pricing policy for ACER published items was implemented from January 1977 with an average increase of 15 per cent which was similar to the rise of all operating costs over the previous 12 months. An amended basis for the pricing of imported items was also necessary from the same date due to the major devaluation of Australian currency in December 1976. To limit the effect of this devaluation we introduced a two part system and in the case of high unit price items reduced the margin over cost. With minor exceptions, it is our practice to use the recommended retail price where this is established by the Australian publisher or agent. The numerous price changes in this area have introduced practical problems with our printed *Price Lists* and *Catalogues* which have to be available because of the mail order nature of our operations. A considerable increase in the number of requests for price information or quotations prior to order has become apparent during the year. It is now planned that we move to an annual pricing of all items sold, with any necessary changes being implemented on 1 January each year.

The operating and supply costs amounted to $1 071 400 and included $258 000 for salaries, $59 000 for freight charges, $46 000 for occupancy and overheads, $17 000 for royalties paid and $35 000 for advertising. The salary component includes charges for service provided by the Accounts Section and the total cost of the Publishing Division. A satisfactory rate of profit was achieved and after meeting the $116 200 costs of Advisory Services, an excess of income over expenditure of $168 000 was available to support the research and development activities of the ACER.

BUILDINGS AND ACCOMMODATION

In order to reduce our administrative costs, we have terminated our leases of the premises we rented at 672 Glenferrie Road. However, we had to make heavy payments of rent on one lease until 31 July, 1977 and on the other until mid-June 1978. Moreover, we were due for several years of back rates, for which no provision had been made. Nevertheless, there were very substantial savings to be made in cleaning, heating, lighting, telephones, services, security and rates.

FINANCE

During the year the financial affairs of the Council have been a deep-rooted worry and nagging concern to all. Only by a reduction in staff and as a result of trading has it been possible to meet our commitments. Nevertheless, the program of work of the Council has suffered heavily during the period and projects have been delayed or modified according to the staff available to work on them.

The Grant received from the Commonwealth Government for 1976-77 was $216 000. This matched Grants from the six State Governments of $215 974 and the total provision for the Core Program was $431 974.

This level of funding originally intended to provide for 17 research staff members, only yielded funds to support between 12 and 13 staff members.

STAFF MATTERS

During the year there has been a heavy burden of administration and I express a deep gratitude to all members of staff who have assisted in many ways, both seen and unseen, to ease and share this burden. In addition, there have been outside commitments to fulfil such as membership of the Education Committee of the Australian National Commission for Unesco, the ACT Schools Accrediting Agency, the Faculty of Education of the University of Melbourne, and of the Advisory Board of the Higher Education Research Unit at the University of Melbourne.

Appointments and Resignations

In the period under review, there has been a marked reduction in the funded projects being undertaken by the Council. This has resulted in many changes both to research staff and to the administrative and secretarial staff.

The completion of the Migrant Education Testing Project led to the departure of Dr Roswitha Dabke, Mrs Janice Emmins, Mrs. Elizabeth Hoare and Mrs Olivia Lademann. Others who have left the services of the Council from the area of General Research are Dr Ramon Lewis, Mr Derrick Tomlinson and Mr Jeffery Clancy, and from the field of Educational Measurement, Ms Jennifer Bryce, Ms Caroline Sigmont and Ms Robin Wines. We thank them all for the valuable work they have done for the Council. In addition, Mrs Val Lloyd and Mrs Andrea Hylands of the library staff left to take up other appointments, and Mrs Pauline Jones of the Publishing Section took up a lecturing appointment at the Caulfield Institute of Technology. Mr Jack B Darmody also returned to Christ College, Institute of Catholic Education early in 1977 on the completion of the Parish Primary School Survey, while Dr L Bennett who was assisting Mr Darmody, has continued to work with us as a Research Officer in the Survey Section.

We congratulate Ms Audrey Grant on being awarded a post-graduate scholarship to undertake work for the degree of Doctor of Philosophy in the School of Education at the University of Melbourne. We have still provided her with a desk to work at for two days a week while she is completing her report for the ERDC on a funded project.

Two staff members who had been with the Council for a very long period have also left us during the year. Miss Alison Saunders, who was secretary to Dr Radford for 18 years, left the ACER at the end of July to take up an appointment with the Victorian Universities and Schools Examination Board. She gave to Dr Radford and to the ACER many years of loyal and devoted service. Miss Jean Prior, who has undertaken a variety of clerical and secretarial tasks for 19 years, left the staff of the Council to look after her invalid mother. Miss Prior received a supplementary pension in addition to super-annuation, under the new ACER Supplementary Superannuation Scheme which was introduced during the year. Two skilled typists, Mrs Betty Anderson and Mrs Olyve Clarke, also left us during the year. They are missed by us all, particularly by those remaining behind in the General Office.

With a need to reduce costs, the Administration Services Section became one that we could not afford and the staff of that section, Mr Norman J Gundry and Mr C (Lyle) R Noble sought employment elsewhere. In addition, Mr Gordon Johnson moved to the position vacated by Mr Steven Dymond in Distribution Services and Mrs Margaret Palmer has taken on more work in the Accounts Section, but has continued to provide friendship, excellent service and cups of tea and coffee to us all.

We have also seen changes during the year in the seconded staff to work on the Item Bank and in Publishing. Mr Raymond F Smith

has returned to the Victorian Education Department, but on secondment this time to SEAMEO-RECSAM South East Asia. Mr Peter L Allanson has returned to Western Australia and Miss Mary Lee to the Victorian Education Department.

We have welcomed during the year on secondment to work on the Item Bank — Mr Hardy Stow from South Australia and Miss Beverly Randall from the Northern Territory. In addition we have welcomed on short term appointments, for the Item Bank — Mr Conrad Lannan, and for the Item Bank and the Junior Secondary Mathematics Topic Test Project — Mrs Donna Lannan, for the Oracy Project — Mrs Faye Holzer, and for work in Psychological Measurement — Ms Linda Schrom. In the Library, we have welcomed Miss Elspeth Miller, a library assistant. In Publishing we have welcomed Mr Marcel Leman, Assistant Publications Officer, Ms Jennifer Lord, Publications Assistant and Miss Loris McLachlan and Miss Deborah Thomson both of whom work as artists. Mrs Marlene Green has joined the staff in the Sales and Distribution Services, Mrs Merrille Corless, the staff of the General Office.

Leave

Mr Malcolm J Rosier returned to ACER in early January 1977 after a period of 12 months at the Institute for the Study of International Problems in Education at the University of Stockholm where he held a Spencer Fellowship. Mr Kevin Piper while on a private trip to Canada visited the Ontario Institute for Studies in Education.

In addition, Mrs Bronwyn Hay following a period of long service leave has remained on leave without pay in Suva, where her husband has been holding a teaching appointment, while Mr William T Renehan spent his long service leave in the Cook Islands.

Lecturing and Other Commitments

During the latter months of 1976 Dr Keeves continued to conduct a course for the Master's degree in Education at the University of Melbourne.

Mr Peter Thomson and Mr Ken Ross assisted by other members of ACER staff are also conducting a course in Measurement and Evaluation in the BEd program at the University of Melbourne. Dr Lincoln Bennett has undertaken lecturing work in Mathematics and Physics at the Royal Melbourne Institute of Technology and at Melbourne State College.

Several members of ACER staff have been involved in study groups of the Curriculum Development Centre. Dr Keeves has been a

member of the group on Curriculum Evaluation, Mr Ken Ross a member of the group on Mathematics and Mrs Margaret Findlay a member of the group on Information Services. In addition, Mr Kevin Piper is a member of the National Committee on Social Science Teaching and of its Publications and Skills Development Sub-Committees. Mr Piper and Mr John Owen presented papers at the SEMP Dissemination Workshop in Canberra in August 1977: Mr Piper is also a member of the SEMP Dissemination Steering Committee. Mrs Helga Rowe has continued membership of the Test Advisory Committee of the New South Wales Education Department.

Mr John Ainley has been Chairman of the Tertiary Education Research Unit Advisory Committee of Melbourne State College. Mr Peter Thomson has represented ACER on the Examination Procedures and Research Sub-Committee of the Victorian and Universities and Schools Examination Board.

Mr Malcolm Rosier has continued as Secretary of the Australian Science Teachers Association, a position held by Mr Owen as Acting Secretary while Mr Rosier was on leave. Mr Peter Jeffery has also continued to be actively involved in the Modern Teaching Methods Association.

CONCLUSION

The death of Dr Radford on 25 November, 1976 at a time when the Council already had an unfilled vacancy for a position of Associate Director, meant that the administration of the affairs of the Council had to be shared among many senior staff. In addition, the uncertain financial situation of the Council during 1976-77 demanded a consideration of ways in which administrative costs could be reduced. As a consequence the Administration Services Section was closed. Mr Sidney Bourke, who had been working on secondment from the Department of Defence (Army Office) on the Australian Study of School Performance, due to be completed on 31 December, 1976, was invited by the Executive to take up a position of Chief Research Officer in the area of Curriculum Evaluation. In addition to working on studies of curriculum evaluation, Mr Bourke was asked to undertake general administrative duties for up to half his time, particularly in connection with project costing and the Typing and Clerical Pools. He has carried out this work with a high degree of efficiency and tact and has assisted greatly in the smooth running of the day to day activities of the Council. Moreover, during this time he has been able to complete the major report of the study of Literacy and Numeracy and has made a sound start on a study of Oracy in Australian Schools. We are greatly in debt to him for the work he has so willingly undertaken.

An additional heavy burden has fallen on Mr Eric McIlroy and Mr Alan Wilkins who have assumed greater responsibility for Buildings and Maintenance and on Miss Phyllis Staurenghi who has taken over an increasing amount of the work associated with accounting and preparation of budgets. Mr William Renehan and Mr Malcolm Rosier have also given help with general administrative duties. A further change in the general administration of the affairs of the Council has been a shift to a greater use of Committees. A Sales Management Committee and a Publications Committee have been established and meet monthly. Moreover, an Advertising Committee, a sub-committee of the Sales Management Committee, has also met each month to plan and co-ordinate advertising activities. In addition, a Heads of Research Sections Meeting has been held each fortnight to consider general issues associated with the administration of the research program of the Council.

The workings of these Committees have made further demands on several senior members of staff, but have resulted in the development of consensus in administrative matters before actions have been taken, and have led to a wider base for the making of decisions concerning ACER activities.

A further innovation has been the establishment of Quarterly Staff Meetings. These meetings have been open to all members of staff and have provided a forum for the consideration of such issues as:

The Nature of the ACER Core Program,
Alternative Structures and Roles for the ACER, and
The Dissemination of the ACER's Research Findings.

At these meetings, debate has been informed and lively and many valuable proposals have been brought forward.

While the discussion of policies and programs can be time-consuming, the staff believe there is a need to extend even further the use of Advisory or Liaison Committees to guide the work being carried out in specific areas and on specific projects. We believe that the membership of such Committees should include not only Council members and staff, but also persons from other fields of educational activity.

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ACER Staff

(As at 1 September, 1977)

DIRECTOR

John P Keeves, BSc, DipEd, MEd, PhD, fil dr, FACE

RESEARCH AND DEVELOPMENT

*John G Ainley, BSc, MEd, MACE, ARACI
Margaret Batten, BA, BEd
Lincoln A Bennett, BSc(Hons), PhD
Sidney F Bourke, BSc, BA, LittB, MACE
Virginia Carter, BSc, DipT
*Gregory B Cornish, BSc, DipEd
*Murray C Cropley, BSc, BEd, TSTC
Robert W Davey, BA
Marion M de Lemos, BSc(Hons), MSc, PhD, MAPsS
*Douglas W Fox, BA(Hons), BEd
Robyn Hegarty, BA
Faye Holzer, BA, BEd (from 30.5.77) (part-time)
Barbara R Johnson, BA, BEd
Conrad Lannan, BCA (from 25.7.77)
Donna Lannan, BSc, DipT (from 13.4.77)
Patricia M Larsen, BA, TPTC, TITC (part-time)
Lex Lees, BA, DipEd
*Frank Maas, BEc, BEd
Jennifer K Matthews, BA, DipEd, BEd (part-time)
George Morgan, BSc(Hons), DipEd, MSc
*John M Owen, BSc(Hons), MEd, MAIP
Kevin J Piper, BA(Hons), DipEd
*Beverley Randall, BA, DipEd
William T Renehan, BA, BEd, MAPsS
Malcolm J Rosier, BSc, MEd
Kenneth N Ross, BSc, MEd
Helga A H Rowe, BA(Hons), MAPsS
Linda K Schrom, BS, MS
*Hardy Stow, BSc, DipEd (from 28.2.77)
Peter P Thomson, BSc, MEd, MACE
Evelyn Watson, BA
*Graeme Wilmot, MSc, DipEd, MAIP
Graeme P Withers, BA, ACTT
*Seconded.

ADVISORY SERVICES

Educational

Peter Jeffery, BA, BEd, TPTC, MACE
Noel McBean, BA, DipEd

Psychological

Diana M Bradshaw, BA, DipEd, MAPsS
Josephine C Jenkinson, BA, MAPsS

Test Library and Reference Materials

Pamela Burns (part-time)
Gwenneth Dobell (part-time)

LIBRARY

Margaret Findlay, ALAA
Elspeth Miller, BA(Hons) (from 21.2.77)
Marie Pernat, BA, ALAA (part-time)
Lula Psiliakos, ALAA (part-time)
Betty J Segar (part-time)

PUBLISHING

Don Maguire, HNC
Marcel Leman
Jennifer A Lord, BA(Hons) (from 6.6.77)
Loris McLachlan
Deborah Thomson (part-time)

ACCOUNTANCY

Phyllis Staurenghi, BA, BCom
L Phyllis Arnold (part-time)
Marie Crisp
May Young
Margaret Palmer

SALES AND DISTRIBUTION

Eric McIlroy
May E Clarke
Peg Engellenner (part-time)
Bruce Fulton
Peter S Gale
Judy Grace
Marlene Green

Jill Harding
Gordon Johnson
Isabel Miller
Ron M Muir
Steve O'Neill
Alan W Wilkins
John Wilson

SECRETARY TO DIRECTOR

Marjorie Balloch

GENERAL SECRETARIAL AND OFFICE SERVICES

A Dawn Cooke
Julie Abbott
Yvonne Allen (part-time)
Win Boyce (part-time)
Judith Clark
Merrille Corless (part-time)
Dorothy Parry
Beatrice Raiola
Jean Ramus
Grace Said
Elizabeth Scott
Dorothy Stephen
M Doreen Webb (part-time)
Bon Wiseman (part-time)

CLERICAL AND TECHNICAL ASSISTANTS

Claire Bayley
Edith D Cooper (part-time)
Barbara D Crisp
Maisie Peel

Contributors to Council Funds

The Council acknowledges, with thanks, the following contributions received during the financial year ending 30 June, 1977:

Australian Governments: General Grants for Research

Commonwealth	$216 000
New South Wales	82 360
Victoria	59 616
Queensland	31 666
South Australia	19 306
Western Australia	15 552
Tasmania	7 474
	$431 974

Special Grants

Grants to specific projects were made by:

The Commonwealth Departments of Education, and Environment Housing and Community Development.
The Curriculum Development Centre
The Schools Commission
The Victorian Catholic Education Office

State Institutes for Educational Research

Nature and Function

The State Institutes are autonomous bodies, each nominating one representative to the governing body of The Australian Council for Educational Research, and co-operating closely with it when occasion requires. In 1956, at a meeting held in Melbourne, these representatives formulated the following statement of the nature and functions of an Institute. In general, as the reports printed later will show, they carry out the functions in different ways and with different emphases.

'The object of the Institute is to act as a learned body devoted to the promotion of study and research in education, emphasizing the scientific study of educational problems, by means of the following activities:

A Disseminating
  (i) research, either
    (a) the results of specific pieces of research done by members; or
    (b) reports on the collection of research information;
  (ii) opinion and accounts of practice in education.

B Participating in
  (i) the discussion, planning, and criticism of research projects,
  (ii) the active carrying out of research projects.

C Establishing areas of contact with other educational groups.'

Membership on Council of ACER

The term of office of an Institute representative on the Council of the ACER is four years, and the dates of appointment are arranged to provide a continuity of membership of the Council.

NEW SOUTH WALES

New South Wales Institute

Office Bearers:

At the Annual General Meeting of the Institute held on 19 November, 1976, the following members were elected as officers of the Institute for 1977:

Patron: Sir Harold Wyndham

President: Dr K Sinclair, University of Sydney

Vice-Presidents: Dr D Thew, Alexander Mackie College of Advanced Education

Dr R Rowe, Newcastle College of Advanced Education
Mr L Whiteman, Department of Education, NSW
Hon. Secretary: Ms J Cust, Alexander Mackie College of Advanced Education
Hon. Treasurer: Mr D Thew, Teacher Education Service, Sydney Teachers' College
Librarian/Research Officer: Mr R Catts, Department of Technical and Further Education
Delegate to ACER: Associate Professor R Debus, University of Sydney
Alternate Delegate to ACER: Professor J Keats, University of Newcastle
Assistant Editor of Australian Journal of Education: Dr J Sheppard, Cumberland College of Health Sciences
Additional Committee Members: Professor D Drinkwater, University of New South Wales
Dr B Southwell, Nepean College of Advanced Education
Co-opted Committee Members: Mr J Shellard (Bulletin Editor), Alexander Mackie College of Advanced Education
Dr L Higgins, Kuringai College of Advanced Education
Mr D Kerr, Teacher Education Service, Sydney Teachers' College
Dr G Watts, Cumberland College of Health Sciences

Meetings

Executive Committee Meetings The Executive Committee has met four times between February and September.
General Meetings The Executive Committee planned the following eight meetings around the theme of 'Research: Applications and Implications':
1 April, 1977. Professor Jack Merwin, University of Minnesota, 'National Assessment of Educational Progress in the U.S.'
29 April, 1977. Dr Ken Tye, Research Division of the Institute for Development of Educational Activities, UCLA, 'The Study of Educational Change'
10 June, 1977. Professor W M O'Neil, University of Sydney, 'Selection for Tertiary Education: The Higher School Certificate Examination'
8 July, 1977. Mr R Catts, Department of TAFE, Mr I Burnard, Alexander Mackie College of Advanced Education, 'Selection for Tertiary Education: Some Alternatives'
29 July, 1977. Professor Philip Vernon, University of Calgary, Alberta, 'Current Issues in the Heredity—Environment Controversy'
23 September, 1977. Assoc. Professor Millicent Poole, Macquarie University, 'The La Trobe Longitudinal Creativity Study'
21 October, 1977. Professor Cliff Turney, University of Sydney, 'Innovation in Teacher Education'; Annual General Meeting

18 November, 1977. Dr Naomi Roseth, Ms Sue Groundwater Smith, Dr Ian Smith, 'Open Education: Implications for Research'

Newcastle Branch
Newcastle Branch Office Bearers:

At the Annual General Meeting of the Newcastle Branch, the following office bearers were elected for 1977:
Chairman: Dr R Rowe
Vice-Chairmen: Mr J Foster, F J Miles, Professor K Collis
Secretary: Miss M Jurd
Treasurer: Mr L Pennington
Librarian/Research Officer: Mr K Morgan
Additional Committee Members: Mr E Manning, Mr P Moore

General Meetings

The following meetings have been conducted:
23 March, 1977. Dr O Barry, 'The Effects of Time Compressed and Time-expanded Speech on the Acquisition of Concepts by Selected Exceptional Children'
27 April, 1977. Mrs M. Hallows, 'Parents Helping in a Compensatory Language Programme'; Mrs B Miles, 'Film-making in the Upper Primary School'; Miss J Langham, 'The Use of an Adventure Playground'
1 June, 1977. Dr P O'Connor, 'Task Orientation and Academic Achievement'
19 July, 1977. Professor L Senesh, 'Community Profiles'
19 September, 1977. Mrs F. Trent, 'Recent Research in Ethnic Studies'

Membership

There are currently 163 financial members of the Institute including 45 members of the Newcastle Branch.

Treasurers' Statements

New South Wales Institute had a credit balance of $732.81 at 23 September, 1977.
Newcastle Branch had a credit balance of $293.68 at 31 August, 1977.

NSWIER Bulletin

The *Bulletin of Proceedings* in 1976, edited by Mr J Shellard was forwarded to members earlier in the year.

Acknowledgments

Institute members express their appreciation to Dr R Rawlinson, Principal of Alexander Mackie College of Advanced Education and Dr E Richardson, Principal of Newcastle College of Advanced Education for continued use of the Colleges' facilities and services throughout the year.

VICTORIA

Office Bearers:

President: Dr L W Shears
Vice-Presidents: Dr G Allen, Miss I Palmer
Hon. Secretary: Mr P Nattrass
Hon. Assistant Secretary: Mr K Hall
Hon. Treasurer: Mr F Hindley
Executive Members: Dr G Whitehead, Dr J Russell, Dr R Rowlands, Mr H Hobbs, Miss A Risdale, Mr G Bradshaw, Mr M Boyce
P.E.T. Group Representative: Mr T Holland

Meetings

Annual General Meeting, 11 March, 1977.
John Owen, 'Curriculum Materials and Curriculum Planning in Schools'.
John Ainley, 'Do Facilities Make A Difference?'
17 June, 1977. 24th Frank Tate Memorial Lecture. Professor Barry McGaw, 'Ought Secondary Exit Serve Tertiary Entrance?'; 'Measurement Alternatives to the Higher School Certificate'.
11 August, 1977. John Smyth Memorial Lecture. Associate Professor J Block, 'Learning for Competence'.
18 November, 1977. General Meeting. Mr M Quin, Mr G Woods, Mr J M Hill, 'The State College of Victoria: Retrospect and Prospect'

G S Browne Prizes

Educational Research: 'An Analysis of Sixth Grade Pupils' Errors on Written Mathematical Tasks': Miss Margot Newman.
Educational Practice Prize: No award.

Groups of the Institute

The P.E.T. Group has continued to conduct an active program. In response to the interests of Members, a Teacher Education Group was formed at a meeting on the 27 April. At this meeting Gerry Elsworth spoke on 'Practice Teaching and Professional Development'. No S.E.T. Lecture Series is planned for 1977. The recently completed

investigation by the Research Group 'Open Design Schools' contributed to a conference on this topic.

Financial Membership

At the close of the 1977 list, financial membership was 388.

VIER Bulletin

The Publications Committee has been responsible for the production of two issues of the *VIER Bulletin* during 1976. In the June issue, No. 36, there were four articles, 'Comparative Education: Resources for Teaching and Learning' by Alan Trethewey (Toorak State College), 'The Australian Science Facilities Program: A Study of its Impact on Schools' by John Ainley (ACER), 'The Diffusion and Utilization of the Australian Science Projects Material' by John Owen (ACER) and 'Literacy and Numeracy in Victoria' by John Keeves and Sid Bourke (ACER). This issue also included, for the first time, several book reviews. The November issue, No. 37, included three articles, 'An Investigation into the Concepts City and Poverty as held by Grade Six Students' by Graham Whitehead (Education Department of Victoria), 'Situational Variation in Language Use' by Jean Russell (Melbourne State College) and Malcolm Skilbeck's 'School-Based Curriculum Development: Tasks for Teachers' (Twenty-third Frank Tate Memorial Lecture). This issue also included a cumulative index to the *Bulletin* 1970-5.

As the contents listed above indicate, the *VIER Bulletin* is continuing to maintain its role of disseminating educational research. There are 47 institutional subscriptions to the *VIER Bulletin* including educational institutions in all Australian states and in Canada, Papua New Guinea, South Africa and the United Kingdom. All members of the VIER, of course, receive each issue.

QUEENSLAND

Office Bearers:

Patron: Mr W Wood
President: Professor B Watts
Vice-Presidents: Mr A Jackson, Mrs D Muir, Mr P Varley
Hon. Secretary: Mr R Wilkes
Hon. Treasurer: Mr M Sadler
Executive: Mr N Alford, Mr N Anderson, Miss J Bedford, Professor J Campbell, Mr J Roberts, Mr R Warry
Representative to ACER: Dr S Rayner

Meetings

November 1976. Professor Betty Watts, Director, Schonell Educational Research Centre, University of Queensland, 'Who Educates the Child?'
February 1977. Professor J Campbell, University of Queensland, 'Realities of Teacher Development'
March 1977. Mr G Ashby, Director of Pre-school Education, Queensland Education Department, 'Evaluation of the Queensland Pre-School Correspondence Programme'
April 1977. Mr R Warry, Director of Planning and Services, Queensland Education Department and Mr P Varley, Research Officer, Queensland Education Department, 'Prospects for School Leavers in Rural and Urban Queensland'
June 1977. Dr P Barry, Senior Lecturer, Schonell Educational Research Centre, University of Queensland, 'Teacher Language Usage'
August 1977. Mr T Schuller, Centre for Educational Research and Innovation, OECD, 'Recurrent Education: An OECD/CERI Project'

Membership

In October 1977 there were 183 financial members.

SOUTH AUSTRALIA

A further attempt has been made to revive the SAIER. Following very limited public advertisements, a meeting was held on Tuesday, 4 October at which Professor Kevin Marjoribanks reported on his research into ethnic and environmental influences on pupil performance in Adelaide schools.

I am grateful to the Director of the ACER for making available a comprehensive display of ACER materials — they aroused a great deal of interest.

A good deal of time was spent discussing the future of the Institute. Approximately 35 people were present but it was difficult to determine how many present were primarily interested in the seminar and how many in the reactivation of SAIER. Another eight indicated their interest but were unable to attend because of other commitments.

The meeting set up a small steering Committee (including the existing 'officers in recess') to organize and publicize a General Meeting to be held later this year; it is proposed to send out invitations to join SAIER prior to the meeting and if the response is appropriate to elect officers at the meeting to ensure the reactivation of the Institute. It was generally decided that apart from maintaining contacts with the ACER, the Institute would develop as its major

role the dissemination of research findings and information in a form suitable for teachers and others concerned in the educational process.

Robert S Coggins
South Australian Representative

WESTERN AUSTRALIA

Office Bearers:

Patron: Dr D Mossenson
President: Mr J J Liddelow
Vice-President: Mr M J Angus
Hon. Secretary/Treasurer: Dr M L Clark
Committee Members: Miss P Adamson, Dr F Coulter, Dr J Lake
Hon. Auditor: Mrs M Hemery
Assistant Editor, AJE: Professor B McGaw

Meetings

November 1976. Dr J P Keeves (Associate Director, ACER), 'Literacy & Numeracy—The Australian Study of School Performance'
February 1977. Dr N Hart (Head, Division of Child Studies, Mt. Gravatt Teachers College) and Mr R Walker (Assistant Director, Mt. Gravatt Teachers College), 'Research into the oral language structures of young children'
March 1977. Annual General Meeting: Report of activities, financial statement, election of office bearers and discussion of proposed revision of WAIER constitution.
April 1977. Dr Neville Bennett (Lecturer in Research Method, University of Lancaster and Director, National Council Project on Open Plan Schools), a discussion on his book *Teaching Styles and Pupil Progress*
May 1977. Invitation from the Perth Linguistics Group to attend a series of lectures presented by Professor M Halliday (Professor of Linguistics, Sydney University).
June 1977. Professor Nancy Martin (Retired Head of the Department of English, University of London), 'Research into the development of writing ability' (Joint meeting with the Reading Association of Western Australia)
July 1977. Professor John Merritt (Professor of Educational Studies, The Open University, Great Britain), 'Developing the Reading Curriculum' (Joint meeting with the Reading Association of Western Australia)
October 1977. Mr D Tomlinson (Lecturer, Mt. Lawley College), Professor Peter Tannock (Faculty of Education, University of Western Australia), and Mr Keith Hayes (Lecturer, Social Studies, Perth Technical College), 'Commonwealth Funding in Education'

Publications

Issues in Educational Research
No. 2 'The Effectiveness of Teacher Education Programmes'
No. 3 'Literacy and Numeracy'
No. 4 'The Commonwealth in Education: An Overview of Federal Funding 1964-65 to 1974-75'
In press:
WAIER Newsletter, No. 2

R G Cameron Prize in Education

The R G Cameron Prize for 1976, made available by the Institute to the University of Western Australia, Faculty of Education, was awarded to Mrs Sandra Brown.

WAIER Prizes

The WAIER Prizes for the most outstanding final year students in education and psychology in 1976 were awarded as follows: Mrs Margaret Dewsbury of Churchlands College; William Johnstone and Kerry Lalich of Claremont College; Kerry Handley of Graylands College; Meredith George and Evelyn Mariotti of Mt. Lawley College; Ian Sheldrick of WA Secondary Teachers College.

Membership

As at September, 1977 the membership stands at 172 (23 new members) of whom 112 were financial as at September 30, 1977. Approximately 45 per cent of the membership is employed at Advanced Colleges, about 20 per cent at the Universities and WAIT, another 20 per cent within branches of the WA Education Department and about 15 per cent made up of school principals and teachers. Seventy members contribute to the *Australian Journal of Education*.

TASMANIA

It was agreed at the Annual Council Meeting on Thursday, 13 October, 1977, that the Tasmanian Institute of Educational Research had ceased to function effectively and would no longer have the right to representation on the ACER Council.